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THE NATION IN ARMS

A TREATISE ON MODERN MILITARY SYSTEMS AND THE CONDUCT OF WAR

BY
FIELD-MARSHAL BARON VON DER GOLTZ

TRANSLATED BY
PHILIP A. ASHWORTH

POPULAR EDITION

EDITED BY
A. HILLIARD ATTERIDGE

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PREFACE

GENERAL VON DER GOLTZ, now acting as German Governor of Belgium, is one of the most distinguished military writers of our time. He has been styled "the most eminent pupil of Von Moltke." He served in the war against France in 1870, and afterwards spent some years in Turkey as the instructor of the Ottoman Army. He was the author of a plan of campaign which gave victory to the Sultan's troops in the war against Greece in 1897. In the war against Bulgaria and the Balkan League the Turkish commanders abandoned the plan for a defensive campaign which he had prepared, and the rejection of his advice had disastrous results. The commanders who did best during the campaign in Thrace were his pupils.

General Von der Goltz's work, "The Nation in Arms," describes the conduct of war in a European country by an army organised on the basis of universal military service. The special interest of the book arises from the fact that it is not a mere collection of essays on the great principles of war, but descends to details and deals with these in an eminently practical and realistic way. The author draws freely on his own experiences of the great war in France. He presents vivid pictures of certain aspects of war that are often overlooked by the mere theorist. Thus, for instance, we have a wonderfully interesting account of the effects of the wear and tear of campaigning on even the best troops. The description of the condition to which the German armies in France were reduced after six or seven months of victorious campaigning presents us with an aspect of war that is left out of sight in

Government bulletins and official histories. So, too, in his detailed study of the problems of supplying an army in the field with food and ammunition and replacing casualties, he shows us how the difficulties of carrying on a campaign increase with every forward step and with every month that the war lasts. These are points that one must understand if one is to form any accurate judgment of the course of the present war. One realises that severe as is the strain of battle, the task of maintaining an army in existence is even more trying for those who have to conduct the wars of "a nation in arms." General Von der Goltz writes as a patriotic German, but there is in his works a complete absence of the "Jingo element" to be found in some of the younger writers of the German army. He argues that universal service is the necessary price that a great Continental nation must pay to secure its safety, but he never expresses the strange opinion that war is something to be sought for its own sake. To his mind it is rather a trying experience that will come from time to time in the life of a nation, and for which the most complete preparation must be made.

The book is a long one. In the present edition it has been brought within smaller limits by omitting here and there dissertations on minor points and a number of the numerous examples with which the author illustrates his argument. But care has been taken to omit no really significant detail and to keep all those interesting personal records of war experience which are not the least valuable part of General Von der Goltz's work.

A. H. A.

October 7, 1914

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CHAPTER I

THE ARMIES OF THE PRESENT

1. *The Rise of the Modern Army System*

ACCUSTOMED as we are to the phenomena of the present, viz., huge armies and ruthless employment of force, we might almost believe that war and military institutions had worn these natural features from time immemorial. Yet both were always much dependent upon the state of universal civilisation, yes, even upon theories, upon the views of right and wrong, and the prejudices of the times. The simple conception of military operations which obtains to-day, namely, that war, where necessary, revokes all rights incidental to a state of peace, did not obtain in former generations; and the application of force was bound up with certain forms, scarcely ever departed from, even under pretext of dire necessity.

There was a time when the troops camped in the cornfields and yet starved, when markets were held in the camps, as in peace time, and when the soldier purchased his own meat and vegetables, whilst the administration of the army made the greatest exertions to provide him with bread as punctually as with money. Höffner relates how, in the year 1806, the troops of the Prussian main army camped, on the night of the 11th and 12th October, close to huge piles of felled wood, and perished with cold, and, even on the following day, remained without fire-wood to cook their food, and that it was only decided to seize those supplies for the army after the soldiers had commenced to help themselves and were felling trees in the neighbourhood. And the same writer further tells us, how in those critical days the supply of oats for the horses ran out entirely, whilst abundant supplies of it were stored in the "Rathskammer" at Jena. But although the French were approaching, the generalissimo

of the army considered himself obliged to write first to the Supreme Ducal Administration at Weimar for leave to purchase what was necessary. What the answer was, we do not know; but this we do know, that the oats fell into the enemy's hands, and that the French horses undertook to solve the complicated question. And yet the Ducal Commissary at Weimar was no ordinary man, certainly no pedant, being none other than the Privy Councillor and Minister of State, Von Goethe, "a tall handsome man"—as he is described by a contemporary—"who, in his embroidered Court dress, well powdered, and with a hair-knot and dress-sword, always bore himself as the Minister, and well represented the dignity appertaining to his rank." *

Still greater curiosities of the same times have been recorded by Clausewitz. When the Prussian troops, after the battle of Auerstädt, were two whole days without any provisions, and on the third day arrived perfectly famished in a rich village, Prince Augustus of Prussia acted as is customary now in every war, and allowed provisions to be requisitioned for his grenadiers, who were nearly dead from exhaustion. The peasants raised a great uproar at the iniquity of the proceeding, and immediately an old staff officer of the Guards appeared on the scene, quite indignant at such conduct, and made the strongest representations upon the subject to the Prince, to the effect that such a system of robbery was quite *unknown in the Prussian army, and repugnant to its spirit.*

On this account, General Kalkreuth, who was the temporary commander, had on the previous evening issued the order, "Bread shall be served out to the troops, and, if no bread is there, bread-money shall be given them." Now, bread-waggons were out of the question, as was also money; and Prince Augustus accordingly quite rightly remarked that it simply amounted to "give the soldiers money that you have not, to buy bread where there is none to be had." Plenty of similar anecdotes could be told of the military customs of those times; stories that would to-day be held to be almost incredible, but which no one in those days marvelled at.

If things of this sort could happen, even after the world had already experienced a series of Napoleonic campaigns, the peculiar views then held must have been due partly to

* Cf. *Marwitz Nachlass*, vol. ii., p. 11. Berlin, 1852.

practically important motives, and partly to such as had become honoured in the observance.

These motives are not far to seek. First of all must be mentioned the recruiting system, which, combined with the old feudal levies, was, until the French Revolution, the best means of raising an army. The recruiting system brought the soldier and his sovereign and military chief into, so to say, the relationship of parties to a contract. As the former owed obedience, so the latter was bound to give promptly what he had promised. Thus arose that peculiar system of supply magazines which almost by itself gave to the military body of the last century its red-tapeism. It confined the movements of the armies within narrow limits, and tied them to magazines, bakeries, and a cumbrous train. Only a certain number of days' marches could be made forward in the same direction, as at each further step in advance the artificial web behind the army became rent, and the transport of flour and bread between the magazines and the front could no longer be kept up under the hard and fast system of regulations. At the least, a delay was caused until new supplies were brought up, and new magazines constructed or established.

Each soldier represented a certain capital value which the head of the nation had to supply from the war-chest, that is—according to the notions of those times—from his own treasury. Thus arose pedantic calculations of money and men, such as are unknown to our military system. Besides, part of the army was composed of foreigners collected from all countries. National sentiment was not yet the universal bond of union, though, in a measure, it was replaced by loyalty to the hereditary sovereign. The troops were accordingly kept carefully together. Whole armies marched in unbroken compact masses and bivouacked in painfully exact order. Only thus was it possible to exercise strict surveillance over them, to prevent desertions and, at the same time, to provision them from the field-bakeries, and to hold markets.

Such a force, raised at so great an expense, was set in motion and employed at the sole beck of its commander-in-chief. The system of line tactics—designed with the object of bringing every man of the widely deployed lines, moving at the parade march, into action and every available weapon

into the firing line—was in close conformity with prevailing conditions. Only with such tactics was it possible in battle to keep the mercenary soldiery under the watchful eyes of its officers. A chain of peculiar circumstances thus prescribed the rules of the military operations of those times, and it was almost impossible to effect the slightest change without overthrowing the entire fabric.

We must not under-estimate the force of the theories produced by conditions such as these, which circumstances imposed upon military operations. False doctrines have before now led armies to destruction and brought States to ruin.

The weakness of the Allies in the wars of the coalition was, in great measure, due to the rigid views which, in the period following the Seven Years' War, prevailed among learned strategists always eager to act, as far as possible, in strict accordance with the science and art of the profession. Thence arose the deplorable disintegration of the combative forces, the prolixity of plans of operation, the exaggerated importance attached to fortresses and to the geography and the topographical features of a country, even to the geometrical conditions to be observed in projects of movements; in short, the frightful complication which rendered every undertaking as slow and as difficult as possible. Hence, also, that dangerous notion, which conceived the essentials of war to lie in the execution of cleverly devised manœuvres, rather than in the annihilation of the enemy's forces.

To such causes are attributable the mistakes of 1806. It was the sickly-artificial conception of war, and not the inefficiency of the Prussian army, which led to the disaster. The hesitation of the Allies to cross the Rhine at the beginning of the campaign of 1814, and the movement of the Bohemian army towards the plateau of Langres, betray the lingering remains of the old military doctrinaire school. This school achieved its crowning triumph when Massenbach, on his retreat from Jena and Auerstädt, ordered Prince Hohenlohe, who was in Rathenow, not to march upon the Oder, but to make a détour to the north, in order to place a brook between him and the enemy; and this though the enemy was not there, and the brook so dry that it formed no obstacle. The defeat of the army at Prenzlau was the consequence; but Massenbach had descried in the direct march between the

brook and the enemy a strategical enormity, and it was quite in harmony with the spirit of the times to disregard all the means of safety, rather than to be guilty of such deadly sin against the rules of military science.

Prophetic were the words which Scharnhorst wrote shortly before Prussia's great catastrophe: "We have begun to value the arts of war higher than military virtues; and that has been the ruin of nations from time immemorial."

The French Revolution marks the commencement of the present era of the conduct of war, which will endure until new and universal social changes shall produce other bases of both political life and military institutions. The French Revolution annihilated at a single blow the scrupulous hesitation to make war support war, to annul civil rights at the first roar of the cannon, and to live on the country in which the campaign takes place.

Conscription had furnished men in sufficient numbers to allow of their being lavishly sacrificed in case of emergency. The modern financial and commercial systems had facilitated the flotation of loans by subscription, and, instead of only the small state treasury, the credit of the whole country became available for the purposes of war. Thus war became more unfettered, and the general was freed from all anxiety with regard to bread and funds. Strategy and tactics assumed a more vigorous and pronounced character.

Frederick the Great proved to the world what great things could be achieved with the restricted and artificial resources of older times. Napoleon, standing at the commencement of a new period, taught immediately what war in its unfettered form could accomplish. Upon his principles our modern ideas are still mainly based. He recalled to the mind of the world what the great Prussian King had already taught it, but which had been forgotten again, namely, that in war everything depends upon the destruction of the enemy's army, and that the battle is the sole arbiter.

Prussia outstripped conscription, which was always attended with varying degrees of hardships, but invariably pressed heavily upon the lower classes, by a system of universal service, the leading idea being to distribute the military burden equally among all classes. This universal service called into being the systematic training of the people for military service.

Railways, which were unknown in Napoleonic times, provide for the most rapid collection of the belligerent forces. They dispense with the preliminary stages which preceded the wars of former days, but make in return the preparation for war in times of peace, and the transition to a war footing—mobilisation—when compared with former times, an act of the highest importance. The effect of the modern fire-arms is to drive the columns of the Napoleonic age out of the field; but their mobility has been transferred to a succession of lines which can accommodate themselves to any ground. The new weapons require, moreover, a good training of the rifleman, upon whom far greater demands are made than formerly.

This is the way in which we have succeeded in raising armies from the whole manhood of the nation; training them, in times of peace, in the best manner for war; furnishing them with all the resources that intelligence, wealth, and commerce can provide; and giving them an organisation which allows of transition from a state of peace to that of war in the shortest possible time. Upon the existence of such armies and upon the principle of employing them unreservedly for the purposes of war, the phenomena of modern warfare are founded.

Our present military system, which is similar to that of all other great European Powers, excepting England, has the advantage of providing an army uniform in all its elements. It supplies young soldiers for the "field" army,* and in this arrangement there is much wisdom. In everything appertaining to military matters, the peculiarities of human nature must be consulted. The "field" army is exposed to the severest losses, and the prospect of dying for the Fatherland comes nearer home to each one of its members than to those of other parts of the army. The "field" army fights the battles, and it is the "field" army that has to face the stress and the terrors of war in their most serious aspect. All this the young soldier endures, in spite of all assertions to the contrary, more cheerfully and better than the other soldier, although the former may lack the bodily strength of the latter.

* The annual contingents actually with the colours, who, by virtue of continuous training under professional officers, are the most efficient troops, are made up to war strength from the previously dismissed contingents, *i.e.*, the next higher in age.

It is only the young that depart from life without pangs. They are not as yet fettered to this earth by the thousand threads that civil life weaves round us. They have not as yet learnt to be sparing of the hours of life. The enigma which they are curious to solve still lies before them as a closed book. They mount the hill without perceiving the abruptness of the precipice on the other side. Their love of adventure rouses their eagerness for battle. Rest and enjoyment, the aim and aspiration of riper years, are as yet far removed. They advance into battle with joy and light-heartedness, two very necessary qualities for the bloody work before them.

The strength of a nation lies in its youth.

Our military system keeps the soldier in the field army until about his thirtieth year. Older writers have recommended the time from the eighteenth to the twenty-fourth year as the best for military service. The body is then quite vigorous enough to endure hardships, and the soldier is as yet free and unfettered. The grain of heedlessness, a quality peculiar to the freshness of youth, is an excellent incentive to martial achievement.

A young field army, particularly one uniformly young, is greatly superior to any other. An army like the old Prussian, in which a youth of fourteen summers, native soldiers of twenty and thirty years of age, grey-haired foreigners of sixty to seventy years, stood shoulder to shoulder in the ranks, could not possibly possess the same internal cohesion. The employment on active service of aged men will only bear good fruit in exceptional cases, where peril to hearth, home, and family had become dangerously near, and defence is a duty incumbent upon all. Older men, again, on completion of their colour service, have become absorbed in their civil avocations, and, when summoned again to the standard at the outbreak of war, will be found to be entire strangers to a soldier's life. They have, in many cases, experienced the cark and care of life, and often have to leave their home affairs in a disordered condition. All this in no wise enhances their inclination to face death for the Fatherland.

Experience in the short wars of our day plays but an insignificant *rôle* in regard to the private soldier, as, properly speaking, it merely supplies a knowledge of the practical needs of life in the field. Our ideas of the value of veterans

date from the time of " professional " armies pure and simple, or from the days of such as had become professional by constant wars. Soldiers then formed a caste apart; the regiment was their home, they became adventurers, and fighting was the sole aim and object of their existence. It is conceivable under such conditions that seasoned soldiers should become veritable virtuosos in the art of war; but, however capable of great achievements, such a stage can now no longer be attained, and our military system rightly excludes old soldiers from the field army.

Upon courage experience may often work in even an injurious manner. Those who have not yet realised danger are generally the bravest soldiers.*

It is otherwise with leaders than with soldiers. The former may not be taken unawares and confounded by the novelty of the phenomena of war. In their case experience is of genuine value, and such experience can only partially be replaced by a study of military history.

Veteran generals and officers, now as formerly, maintain their position of honour.

Up to what age the State may demand military service depends upon the force of circumstances, the measures of competing neighbours, and the degree of danger existing. By enactments passed in times of peace, civilised nations rarely go beyond the forty-fifth year of age. But an hour of peril justifies exceptional laws, and the old mercenary armies have proved that many men remain efficient in the ranks for five and even ten years longer.

The military system of our day greatly diversifies the nature of services to be rendered and their demands on the physical strength and bodily activity of individuals.

The contingents next in age to those of the active army will invariably be formed into units designed to reinforce the field troops, hence on the outbreak of hostilities will proceed with the latter to the frontier and take part in all operations in the open field, in skirmish, and in battle. The more serious the situation, the more strenuous the exertions of the parties to the strife, to the greater extent will these contingents

* An exception may be made in the case of primitive races, whose lives are spent in a series of struggles with neighbouring tribes; but such may fitly be disregarded here, since we are solely concerned with the affairs of Western civilisation.

be absorbed in their *rôle*, which, moreover, becomes more exacting as the war is protracted and becomes more stubborn in nature.

This class of troops, of which "cadres" are not, as a rule, formed in times of peace, is also, so far as any remain available, employed in the duty of guarding the railways and roads, and in the occupation of districts in the rear of the army which has invaded the enemy's country. Here the duties of active and garrison troops are combined. Numerous fortresses, open towns, railway stations, depôts, hospitals, magazines, bridges, intersections of roads, etc., must be held, in order that communication may be kept open. The endless train of vehicles, of convoys of sick, wounded, and convalescent soldiers, prisoners of war, *matériel* of all sorts, and of horses and cattle, always going on in the rear of a great army, demand an extensive escort-service. The territory occupied must be administered by force, and this cannot, as a rule, be done without military assistance. Attempts on the lines of communication, the assembly of armed bands, and a rebellious disposition on the part of the population, must be prevented or suppressed. Guard duty varies with patrolling, which frequently leads to skirmishes, and a round of exhausting activity is entailed, which only differs from that of the field army by the absence of great engagements and the considerable losses of a pitched battle, and, so long as the war is carried on in a civilised country, by the fact that the necessity of bivouacking is less frequent.

In sieges, too, reserve troops are fitly employed, because the duty here, though hard, is regular, and demands no great mobility and tactical skill. They will naturally be employed on all operations of minor importance, for which the field army authorities are loath to detach troops, in order that their main object, namely, the annihilation of the enemy's field army, be not unduly interfered with.

Still less mobility, vigour, and freshness is demanded for garrison duty in the fortresses at home. Even when the enemy invades the country, only part of the fortresses will be threatened and only a few really besieged. In most cases a detail of active or reserve troops will be available to take part in the fighting and to lighten the task of the "Landwehr" forming the garrison troops. Oftentimes great and important towns or certain districts of the country must be occupied for

merely the maintenance of order, and only transport and guard duty on the railways falls to the garrison troops: for such duties the older elements, no longer quite fit for active field service, can, of course, be incorporated with advantage.

There are also a number of duties which can perfectly well be discharged even by partly trained troops, such as the guarding of prisoners and prisons, and the guard and signalling duties on unfortified coasts, on rivers, and in mountains. And, again, the administrative services of the army require many labourers and artisans at home, and the hospital service, too, claims many hands.

Thus even men of advanced age can be usefully employed, and men who have not even in peace served under arms may be called out, in order that all, in the performance of various duties for the army, may pay their tribute to their Fatherland.

For that reason all great Powers supplement their armies proper by legal enactments providing for a levy *en masse* of all men fit for military duty. We possess such a supplemental force in our "Landsturm," whose *rôle* is even more than usually comprehensive, since its first ban is designed to act as a feeder to the army in case of necessity.

Quite independent of these latter are the *depôt troops*, whose duty consists in training and preparing fresh drafts for the army in the field. How important this duty is, was seen in 1870, when the drafts for the German army sent to the front to make good casualties of all kinds consisted of 2,000 officers and 220,000 men, whilst by the end of March, 1871, an almost equal number was available at the home depôts. In exceptional cases these troops also are employed for other purposes. The instructional duty which they have to perform may, for instance, be well combined with guard and garrison duty. Such employment outside their proper sphere may, however, easily become disadvantageous, because of the danger that the source of fresh reserves may thus become closed to the army in the field.

Thus, then, troops are divided into various categories according to their several duties; yet the line of separation must not be drawn too strictly, because circumstances may require that the sphere assigned to each should be altered as a temporary measure, or even for a long period. Every one who is not quite a cripple can, in these days, make himself

useful in war, provided he only have a good will: for the duties of an armed force are, indeed, most diversified.

2. *Army Organisation*

The rational composition of an army is of great importance. Seeing that the national military system affects all the relations of social life, and continuously demands the mutual co-operation of the civil and military authorities, it follows that it is best that the division of the army should be adapted to the civil, or, in ordinary language, the "political" division of the State.

A coincidence of the political and military division has the great advantage of rendering each separate component of the army independent, like the army of a small country. The province in which it is stationed provides its men and horses, and its stores and depôts are also situated there. Its commanding general and the highest civil authorities are independent within certain limits, and are invested with sufficient powers to carry out and decide everything necessary.

In great European armies several army corps must always be combined to form an army, as otherwise the supreme commander would be obliged to take direct control of eighteen, twenty, and more units, and the whole administration would, in consequence, become very cumbersome. The number of corps to form an army depends upon circumstances and upon what is required of the army, and, not unfrequently also, upon the rank, the personal traits and the reputation of the general in command. Personal considerations often play a great part. In modern wars what was really only an army corps has sometimes been called an army, because the commanding officer was a great personage.

If the experience of the late wars be consulted, we arrive at the conclusion that an "army" is best composed of from three to six army corps. Six, as were combined in the Third German Army,* are an easily controllable combination. Three would probably be the smallest number. Where, in time of peace, army corps exist, they must also, in time of war, remain the standard units, and only smaller military systems, which do not in time of peace possess such large combinations, their armies being divided into divisions or brigades, can

* "Third German Army," the army commanded by the Crown Prince of Prussia in the war of 1870.—[*Editor.*]

be constituted otherwise. We must, therefore, adhere to from three to six army corps, to which would be added one or two cavalry divisions, for a modern army could only in exceptional cases take the field without independent cavalry. The commander-in-chief would thus dispose of army corps and cavalry divisions.

In all great European armies we find an army corps to consist almost universally of a strength varying between 30,000 and 40,000 men. Although its development has proceeded slowly and in haphazard fashion, still its effective strength seems to accord with natural conditions.

After an attempt made in 1795 (but subsequently abandoned) to divide the Prussian army into army corps, the idea was carried out in practice in France during the first war of the allied Powers against France, when various small and perfectly independent armies were formed, each of the strength of our modern army corps. For instance, in 1792 an army of the North was organised, consisting of 35,000 men; an army of the Centre of 28,000 men; an army of the Rhine of 17,500 men; and an army of the South of 40,000 men. Later there was added to these an army of the Sambre, another of the Ardennes, and lastly an army of the Moselle, all of practically equal strength. The supreme command was vested in the Government, there being no individual commander-in-chief of the whole of the forces. When this command passed into the hands of the First Consul, subsequently the Emperor, these armies fell one step in dignity, and became army corps, which could be more easily welded together into the hosts with which Napoleon waged his wars. But, until 1805, the corps of the French generals and marshals were outside France still called armies.

Since that time a subdivision of the army for purposes of war into corps became firmly established. Naploeon would, perhaps, have retained the corps organisation in time of peace, if the preservation of peace had been both possible and pleasing to him. But it never came to this, and he formed the corps only as fresh wars came in sight, composing them on each occasion conformably to his purposes. Prussia, from the experiences gained in the wars of liberation, made the corps organisation part and parcel of its peace establishment, and after the most recent modifications finally arrived at the present strength. 30,000 to 40,000 men of all arms,

with their modern equipment, can still move upon one road and deploy the same day into order of battle to the front. The infantry marches in sections of fours, the cavalry four horses abreast,* waggons and guns in single file.

This order has not, of course, been laid down at random, but is in accord with the ordinary condition of the roads and byways. Four men or four horses can march wherever the road is of the ordinary width. Upon broader high roads the columns may, of course, have a wider front, and several guns and carriages may move abreast. But on striking a narrower passage the formation would have to be changed, as stated above, to four men, four horses, a gun, or a waggon, and the delay thus caused would counterbalance any advantage gained by marching on a wider front. It therefore commends itself to march from the first so as to be able to pass everywhere. Columns will not be able to march on a wider front throughout till the network of roads in Europe has been completely altered. As, however, the value of land increases with the advance of civilisation, a general widening of the roads is hardly to be expected. Double width of front will probably be adopted on good roads and great highways, particularly on the advance into battle, but on such occasions the distances in question will generally be moderate. Moreover, owing to heat and dust, marching in the midst of a broad column will be extremely irksome. Across open country, admitting of any extension desired, only short distances could be traversed owing to natural obstacles, such as ditches, hedges, banks, or ploughed fields and standing corn, and such a march soon tires the men out.

Thus, as far as we can see, the present order of marching must be adhered to ; and here we perceive that the tail of an army corps, slowly moving in column, is at the distance of a full day's march† from the head. If the head of the column becomes engaged, its rear division has to accomplish a task, such as can only be demanded of it under normal conditions, in order to come up to the front. Other corps still further in rear would either not be in a position to do this at all, or would only reach the scene of action in such an exhausted state

* As we know, the cavalry also have a formation of twos, which may frequently be employed owing to the difficulties of making headway on narrow or partially obstructed roads.

† In round figures 15½ miles.

that energetic action on their part would be inconceivable. In the height of summer, provided the heat be not too great, it is certainly possible to do a long march in the morning, then to rest, and afterwards go into action. But in winter, when in our latitudes it is only light at 8 A.M., and dark again at 4 P.M., this is quite impossible. The strength of an army corps must, accordingly, be calculated with a view to all seasons of the year. The length of a marching column of 50,000 men already extends to 25 miles, and the last troops would therefore be able to reach the battlefield only with good roads, in the longest days, and by extreme exertion. In an emergency this would be exacted, irrespective of casualties on the march, but it cannot be regarded as the rule.

Our calculations do not, however, include the trains of vehicles bringing up ammunition and food, or other carriages employed in the hospital service, the conveyance of bridging materials, etc. These vehicles extend over a distance of another 18½ miles, unless the intervals requisite for maintaining order and for preventing the blocking of the roads be dispensed with. And thus it comes to pass, that the tail of the baggage column of a German army corps is at a distance of two days' march from the front. In the case of a column of 50,000 men, with a corresponding increase of trains, it would be even as much as three days in the rear, that is to say, the rear of the baggage would hardly ever be able to reach the troops at all until a long halt took place. If an army corps is considerably larger than 30,000 to 40,000 men, it must, under all circumstances, be divided up and made to march on two different roads. Each of the two parts would require a separate commander, for which reason it would be better to make the division permanent, that is, to make the corps smaller.

Again, were an army corps to be of lower strength, the network of roads could not be sufficiently utilised; and this, with the size of our armies and the difficulty of moving them, is an important consideration. And it is impossible to meet the difficulty by allowing two such smaller army corps to march in succession upon the same road; for in such a case, the rear one would either be obliged to follow close upon the transport waggons of the leading corps, thus being more than a whole day's march from the head of the column, or it would

have to intervene between the first corps and its train, with the result that the leading corps would be cut off from its commissariat and transport.

An army corps of from 30,000 to 40,000 combatants is, accordingly, the *largest and most natural unit* within the army.*

As the enemy is also bound by the like conditions, he cannot, in a single day, bring more troops into action than our army corps. From a purely theoretical point of view, this latter is accordingly capable of holding its own with any army of superior numbers for an entire day, provided that this army advances upon a single road. But, in practice, this certainly happens but rarely, for where several approaches exist, a superior enemy will take good care to utilise them, in order to bring his greater strength to bear.

From these reflections we arrive at the result that an army corps must be completely independent; that is, provided with all that a fighting body can ever possibly require, either in the field or whilst manœuvring. It must, accordingly, be not merely composed of all three arms, infantry, cavalry, and artillery; engineers are also indispensable, as well as *matériel* for building bridges; the administrative department for supplying ammunition, provisions, and the necessary machinery for tending the sick and wounded; even its own reserve of horses. The general in command must also have the disposal of the reserves, which are being held in readiness in their district at home.

Only under these conditions can an army corps be entrusted with all the duties which are imposed by war in a civilised

* The figures quoted must not, of course, be taken with strict arithmetical precision, nor must the general rules as to the order of march be too rigidly applied. By shortening intervals, or by marching on a wider front, the depth of columns may be very considerably decreased and more troops allowed to march on the same road. In an emergency the metalled roads would be surrendered to the artillery and the train, the infantry marching alongside over the fields. Napoleon —under different conditions of cultivation—had often recourse to this expedient. Cavalry moves in advance, and, therefore, does not enter into our calculations. At times the train may be left behind, when two army corps could march in succession. Moreover, all the trains of the several arms are rarely combined, part of them being always en route, bringing up supplies from the base. In the compilation of a code of rules governing the movement of troops on a large scale we must start from the assumption of normal conditions and of army corps of normal strength.

country. Hence we perceive that a weak army corps is in a certain sense a wasteful institution; for the administrative department, etc., must be almost as large in the case of a corps of 20,000 men as in that of one of 40,000.

To give an instance, let us examine closely the composition of the German army corps. It consists of the staff of the general in command, with the administrative, sanitary, and judge advocate's departments; further, of two infantry divisions, a Jäger (Rifle) battalion, which latter, however, is attached to one of the two divisions, the corps artillery,* a telegraph troop, the ammunition columns, and the army service corps, the latter comprising the commissariat columns, the transport columns, the pontoon equipment, a field-bakery column, a horse depôt, and field hospitals.†

The two divisions and the corps artillery form the so-called "fighting part," with which we are here mainly concerned. The remaining elements are calculated on the basis of probable needs, according to the lessons of experience. The ammunition columns carry a full supply of ammunition for a whole day's fighting, whilst that required for a second day is carried by the troops themselves. A bloody and decisive battle of two days' duration would not, however, cause complete exhaustion in this respect, provided the supplies were previously intact. The provision and transport columns combined can supply the men and horses of the corps for at least five days,‡ the hospital can shelter 2400 wounded, that is as many as would probably require assistance after one day's battle. The bakery column suffices in a civilised country, where private industry can be utilised, for the daily bread supply. The pontoon corps is capable of throwing a bridge across a river of average width, such as the Elbe at Meissen. The remount depôt contains a varying establishment of horses, in order to replace casualties; when

* Several army corps include also a detachment of mounted orderlies ("Jäger zu Pferde").

† The three bearer companies are attached to the two infantry divisions and the corps artillery as integral components, and count as units.

‡ The army corps at present comprises six provision and seven waggon park columns. In the aggregate these contain food and forage for their army corps and half a cavalry division for four days, if moderately loaded. Loaded more heavily, though not excessively, they could easily provide supplies for even six days.

leaving home, on the outbreak of hostilities, it comprises 200 animals.

Now a few words as to the *Infantry Divisions*. These, in a certain sense, form small army corps themselves, containing as they do a proportion of all three arms, and being independent in all, save in respect of administrative services, food, and ammunition supplies.

The object in their case is the same as in the constitution of the army corps, namely, the capability of independently engaging the enemy. And this may not only be required of a division when detached from its corps, but may also be demanded of it in a general engagement, since the general in command often deploys both divisions of his army corps side by side, and assigns to each its separate sphere of action.

Towards the close of the Franco-German War, when the German troops were frequently compelled to spread over a very large area, with the enemy in considerable numbers before them, though, owing to his dwindling energy, without apprehension of any very obstinate fighting, it was frequently found necessary to subdivide even the divisions, and to furnish the brigades with artillery and cavalry. These latter had tasks imposed upon them such as under ordinary conditions would only be required of divisions or army corps. But such an arrangement was only possible under the then existing circumstances, where the foe had but little martial vigour left.

Our divisions, at the present time, consist of two brigades, or a total of twelve battalions,* three squadrons of divisional cavalry, an artillery regiment of six batteries, a company of engineers, to which is attached the pontoon train and a bearer company.

The allotment of artillery is on a very liberal scale, and in itself contributes to enabling the division to engage independently in a serious combat, which, when a corps is marching on several roads, may often fall to the lot of the division first coming in contact with the enemy. Such a struggle will frequently last for hours, before the other division can approach from its side, or the corps artillery move up from the rear. A good division may rightly be expected to hold

* In addition a "Jäger" (Rifle) battalion is attached to one of the divisions.

out for as long as half a day against overwhelming numbers,* in order to facilitate the concentration of the whole corps.

The cavalry will be sufficient, unless the division is sent on a special mission which entails movement to a long distance from the army. A single squadron, as provided for a Russian infantry division, could well perform the daily duty of reconnaissance and communication, in which infantry cyclists would co-operate. Our system of outposts, in which cavalry play a leading *rôle*, demands, however, greater strength to provide the necessary reliefs. The possession of six squadrons also admits of the temporary formation of a regiment for some important detached duty, without depriving the divisions altogether of mounted troops.

After the two infantry divisions comes the corps artillery as the third element of the army corps, numbering six to eight batteries. These are most indispensable to the general in command, to enable him to give a decisive turn to the action in which his corps is engaged. A line of guns of this length soon makes its effect felt. To the point at which it appears and where its fire prepares the attack, the infantry, too, involuntarily inclines. Its front demarcates that of the whole army corps. No one but the general in command has a right to dispose of the corps artillery.

Formerly cavalry divisions were not constituted till war appeared imminent, but now they are regularly assembled for the purpose of manœuvres.†

Their strength cannot, as in the case of army corps, be determined by a normal standard. The present establishment is the joint result of considerations affecting organisation and of theoretical speculations.

The allotment of some artillery to cavalry divisions—already made a necessity by universal usage—is always of advantage, not merely for occasionally enabling the cavalry to pass a defile held by an enemy, but also for preparing their charge by unexpected fire.

Cavalry divisions consist, as a rule, of three brigades, each of eight squadrons, and two horse artillery batteries, with the addition of an engineer detachment.

The combination of two cavalry divisions into a cavalry

* Provided they all come from one direction.

† Only the Guards corps has also in time of peace a cavalry division of four brigades.

corps for particularly vigorous exploits has recently been tried at peace manœuvres. The handling of such large masses of horsemen is naturally a difficult task, requiring on the part of the commander extraordinary judgment, rapidity of decision, and a good eye; and the ground, too, must be favourable. In spite of the highest skill in surmounting obstacles, in central and western Europe cavalry meets with many insurmountable obstructions. There are not only walls and other permanent enclosures, or swampy watercourses, but corn and rice fields, vineyards, ground under irrigation, even plots of newly ploughed heavy soil, can check the speed of the squadrons or render their contact so feeble as to deprive it of value. But the evasion or passage round such areas of the fighting zone will become less feasible with the growth of the body of cavalry to be handled.

In a combination of favourable conditions, bold as well as skilful leading and open ground, the temporary combination of cavalry corps may be productive of great results. It will naturally occur where a number of cavalry divisions precede the two advancing armies; hence wherever cavalry are opposed in large masses, the stronger and more enterprising of the two being determined to rid itself of its opponent by a vigorous onslaught, so as to facilitate its purpose of reconnoitring the enemy's dispositions.

In former times a universal belief prevailed in the necessity of a reserve of artillery also. In all great battles this reserve played practically the same *rôle* for the commander-in-chief as does the present corps artillery for the commander of an army corps. Its employment was, however, restricted to one or two days in the course of a whole campaign, and the toil of dragging such a cumbrous mass of guns behind the army was found to be inadequately profitable. Besides, the corps artillery of several army corps enables the commander-in-chief to collect at discretion a formidable mass of artillery during the progress of a battle, and in the case of corps being held in reserve, the employment of their corps artillery as a great reserve of guns for the army is the only means of profiting by the presence of such numbers of guns otherwise unemployed.

In modern armies the place of the artillery reserve is taken by the "heavy artillery of the field army," whose particular *rôle* consists in dealing with frontier fortifications and barrier

works impeding the free movement of the armies, or in accelerating operations against fortresses by *coups de main* on advanced works. This park of guns includes howitzers and guns and mortars of heavy calibre, which, drawn by horses of a specially heavy type, follow the troops, in readiness to be placed in position as required.*

It might be of further interest to arrive at the natural size of the smallest units. In the case of the infantry it has hitherto been considered proper to adopt a number capable under all circumstances of being controlled by a single human voice, which resulted in the establishment of battalions of 1000 men as the smallest tactical unit. The company was regarded as an independent body merely for purposes of training and minor details of administration, never for fighting purposes. All this has been altered in our days. Dispersed order tends to lengthen the firing line, and to increase the distances between the several parts of a battalion, so as to render control by word of command impossible. The latter may still be possible in the case of a company, though even here it will mostly become a very difficult matter. Improvements in weapons have, moreover, increased the force inherent in smaller units, and thus established their claim to independence.

Another solution might be found in the consideration of what would be the largest body of troops able to venture on entering the fire zone in close formation without risk of immediate annihilation. It is generally admitted that a battalion offers too large a target on coming within range of hostile guns ; and for that reason alone, if for no other, it is divided into four companies. This seems to be an implied admission that the battalion has ceased to be strictly regarded as the smallest tactical unit in the infantry, and that the company of 250 men has become so. The number of companies in an army corps is, however, too great, and it would practically be impossible to deal with 100 companies, certainly much more difficult than with 25 battalions. Even a regimental commander would experience difficulty in handling

* These guns must not be confounded with field howitzer or field mortar batteries, whose proper object is to prepare the assault on field entrenchments by fire action, and which are required to have sufficient mobility to manœuvre in conjunction with the other guns of the army corps.

twelve single companies if the battalion organisation were abolished, hence the retention of battalions as tactical units is most appropriate. It should be impressed upon companies that, notwithstanding the rapidly evolving phases of a battle, they must never lose touch of their battalions, and must constantly endeavour to maintain their proper place within that larger unit. Every commander of a company must thus, not only during an engagement, keep his eye on the enemy, but must also pay attention to his position in relation to the other companies in accordance with orders issued.

In the cavalry a squadron of 150 troopers forms the smallest tactical unit, the number being dictated by experience, which proves that 150 horses and a corresponding number of men can still be readily supervised in all details by a single commander. This number also corresponds approximately to an establishment which a landowner in northern Germany would consider feasible to keep under single management; where an estate required the services of more than 150 men, with a like number of horses and draught animals, outlying farms would be established.

The strength of a battery of six guns as the smallest tactical unit has been determined by a similar process of experience. Formerly a battery varied between six and twelve guns, and at a more remote period—during the Seven Years' War, for instance—batteries were made up from the gun park as required.*

We now see that battalions of 1000 men, squadrons of 150 troopers, and batteries of 6 guns represent the smallest tactical units in the German army. The army corps with its two divisions, a rifle battalion and the corps artillery, numbers 25 battalions, 6 squadrons, and from 18 to 20 batteries, or 25,000 infantry, 900 cavalry, and 108 to 120 guns. Including the staff, the engineers, and the gunners, a complete army corps may be taken in round numbers at 30,000 combatants.†

The cavalry division of three brigades of eight squadrons and two horse batteries numbers 3600 men, with twelve guns.

* In the case of the heavy artillery of the field army, which requires a much larger number of ammunition waggons than field batteries, it may be possible to revert to four-gun batteries.

† Similar data respecting the British Army will be found in various English text-books.—[Tr.]

So much for the organisation and composition of our armies.

3. *The Corps of Officers*

"The soul of the Prussian army is in its officers." This saying of Rüchel may, at the time of its delivery, have been laughed at on account of its somewhat ludicrous form, though the idea is really excellent. That the spirit of the corps of officers bespeaks the spirit of the whole army, is merely a repetition of what is universally observed in political life. So long as the educated, the leading, classes maintain their efficiency, the people also will be stout and capable. On the other hand, the decay of the ruling classes of society entails the decay of the whole nation, except it be that a great social revolution sweeps aside the former, and replaces them by others, whereby a temporary respite may be afforded, but never a permanent remedy. In the Turks of the present day we may perceive what lot is in store for an honourable, proud, brave and deeply religious people when deprived of the leadership of the upper classes. The best possible troops under bad officers are at most but a very deficient body. The corps of officers must accordingly be chosen from the best classes of the people, who exercise even in ordinary life a natural authority over the masses. Frederick the Great, the founder of the Prussian corps of officers, recruited it entirely from the hereditary nobility, which alone at that time, by social standing, education, and tradition, could supply suitable material. When circumstances altered, the composition of the corps of officers became changed. Though even to-day the officers are chosen from the German aristocracy, yet this means the aristocracy of education, which has taken the lead in social and political life. Especial value is, and is rightly, laid upon education, because it is the basis of noble and moral qualities. But we ought not to cling exclusively to scientific attainments, but also pay proper regard to the qualities of the heart and character. It is required of an officer that, in the interest of duty, he should forgo personal advantage, luxury and wealth. Hence all sections of the population who are not, by reason of their vocation, compelled to prefer personal advantage to great and public ends, are fitting persons to recruit the corps of officers. In this connection sons are educated up to the feeling of duty by the very

example of their fathers. Egotism is beyond all doubt the bitterest enemy of the efficiency of the corps of officers, and every occupation calculated to increase it is an enemy of the latter. It was, therefore, most appropriate to give the corps of officers the character of a profession in which each member is the social equal of all others, all having common interests, and also common obligations, and in which the whole body is held responsible for each of its individual members. Thus the corps of officers has acquired certain characteristics, reminding us of the Orders in the heyday of their existence, and it ought to be a genuine brotherhood of knights.

An ideal trait must be peculiar to its whole nature, otherwise it is incapable of fulfilling its purpose. Let us picture to ourselves in what this mission consists. In the most trying situation possible in life—namely, in the face of death—officers are called upon to lead a mass of men, and prove their influence over them. To do this, exceptional qualities are demanded, such as cannot, in the case of the large number included in the corps of officers, be hereditary in every instance, but which may in great measure be gained by education, and especially by continuous intercourse with the best men of the nation. And this is only rendered possible by the institution of social equality.

Influence over the soldiers must be gained in time of peace by a proper application of the superior qualities of intellect and character, in training and leading them. This, above everything, must also include care for the well-being of the soldier. A decay in the corps of officers and its influence sets in immediately the officers begin no longer to trouble themselves about the private soldiers and to confine themselves merely to giving orders. When authority over their troops can only be enforced by noisy orders, it is, as a rule, already enfeebled. The worse the discipline in an army is, the more despotic a form it assumes. In addition to influence gained, example is requisite, and this is more the case in time of war than in peace. The officer must not care for his life. Just in order to inspire his men, he must frequently expose himself more than the ends of battle would otherwise at the moment demand. By thus showing himself exceptionally fearless and self-sacrificing, he awakens noble impulses in the soldiers' breast, for only by these can great deeds be done. Superior position in the state is therefore of

necessity the natural due of officers as a class. *Noblesse oblige.* He who is accustomed to regard himself as belonging to a special class will also, in war, consider himself bound to do something special. But he who, on the other hand, always lives in an inferior and subordinate position, will only in few cases feel himself impelled to emerge into sudden prominence. Slaves are always cowards. But the slavery of an inferior state of life is no less galling than any other. It deprives a man of pride, which is as indispensable to an officer as is his daily bread, to enable him to exercise his authority under the trying circumstances of active service.

The social advantages which are conceded to his class are capital profitably invested. Even the prejudices which the officer sometimes entertains, owing to more deference being paid to him in his youthful years than to others of his age, bring in good interest on the field of battle, to the advantage of the Fatherland. His duty is to command and to lead, and he must therefore feel his dignity, and be proud of his position; and there is no harm done even if he be somewhat more puffed up with a sense of his own importance than circumstances justify.

When, furthermore, the officer must forgo the prospect of wealth, or even permanency of home, and risk the future welfare of his family, all which is assured to the landowner, the merchant, and the tradesman, it appears only right and proper that he should be compensated for relinquishing these advantages by the bestowal of outward distinctions. And it is just these latter that most frequently earn for the officer class the envy of others; and yet we must not forget that these are only a just, or even a modest, compensation for great sacrifices. No other calling demands readiness at all times to sacrifice one's life. The illustrious Decken, eighty years ago, expressed himself in very clear language upon the position of the officer in the State.

"Egotism has passed from individuals into whole classes," says he; "one class esteems another only in proportion to the advantages which it can derive from it, or only in so far as it recognises in the other a similarity of character and an immediate community in striving for one and the same end. The sovereign in a monarchical state favours the nobility, because he can depend upon its immediate support. In a commercial country, the merchant is held in the highest

esteem ; and, after his own vocation, he considers navigation to be the most honourable pursuit. Personal interest, shaped according to various needs, is the measure of the value of the occupations and aims of one class in the eyes of others.

"The literary man loaths war because the Muses take to flight on hearing the din of arms. The statesman is appalled by the enormous expense caused by military preparedness. The civil bureaucracy is jealous of the power it is obliged to surrender into the hands of the military authorities, and often treats soldiers like citizens belonging to another State. The moralist is vexed at the gay life of the officers ; while the dandy envies him his fine dress and his sword, and the agriculturist cannot pardon the soldier for enlisting his sons and servants. But in case it has happened that any one has ever been so unfortunate as to incur our displeasure, we are on the whole very much inclined to remark all his failings, even the most insignificant, which before would not have roused our attention, and to ignore his merits entirely. If once we have taken a dislike to a class, every occasion tending to intensify this feeling must be regarded as a fresh tributary by which the brook swells at last into a raging stream. Now, when in consequence of a long peace the memories of past services have become completely obliterated, and there is no immediate prospect of a war, the citizens take more and more note of the burden of the upkeep of an army, and attempt to convince themselves of the uselessness of this institution, adducing in support of their assertions many specious proofs." The present day, especially in Germany, is favourable in this respect to the officer class. Great and successful wars have enhanced its renown, and have moderated the envy of others. But should peace endure for several decades to come, it may again become necessary to remind the people that external favours may, without harm, be extended to the military profession, and especially to the officers, and that such may even be profitable. An officer class of inferior social position may produce excellent, peaceful, and industrious citizens, but it will be poor in bold and courageous soldiers. Without social privileges, the class must of necessity soon sink down to a very insignificant level ; for in civil life prosperity determines social grades, and our officers are—thank God !—in the majority of cases, as poor as church mice.

The officer should, furthermore, preserve his youthful

vigour to a comparatively high age. It is his province to stake in war, and upon its uncertain chances, woe and weal, life and reputation. And this demands, in addition to military qualities, a light heart, ever hopeful and averse to looking at the black side of things. But this light-heartedness will scarcely be preserved by one who has been oppressed by a long life of care. An existence free from care—yet no more than this—should be secured to officers by the State, in its own interest. Officers who eke out a miserable existence in secret, and are always looking forward to the moment when, freed from the burden of splendid misery, they will be enabled to live in some quiet nook on a moderate pension—officers of this description are of no service to the army and their country.

How can such men be animated by the virile and bold impulses indispensable to a leader in battle? The preservation of physical activity must also be considered. It is not a little to demand of a man and father of a family of fifty years and upwards, that he should dash fearlessly in the teeth of the enemy's guns, at the head of his squadrons, and ride unfalteringly over hedge and ditch. Let any one demand this of one of our sleek merchants, of a comfortable squire, of manufacturers and private gentlemen of a like age, and we shall find only very few that will not refuse it as being an act of madness, quite ill-suited to their years.

A portion of youth's dashing recklessness must be preserved by the officer until the end of his career, and he will only be able to do this if his position guarantees him some freedom from the ordinary stress of everyday life. An aristocratic trait must pervade his whole being.

The Fatherland, in granting its officers an honoured and self-sufficient position, obeys the dictates of prudence and self-preservation. More depends upon the energy and excellence of this class than of any other; to wit, the honour and liberty of the whole nation.

Important for all great European armies of the present is, also, the class of reserve officers, who only leave their civil occupations when war summons them to the standard, or when manœuvres require their attendance. The name differs in various armies, but the essential point remains the same.

No State is sufficiently wealthy to maintain a body of professional officers in sufficient numbers for the army

mobilised for war, when the peace establishment expands to thrice its strength and above. In Germany we should meet with the difficulty, that the barriers of the professions and classes which supply suitable material for our corps of officers would have to be broken through.

Not even the field army proper can be entirely commanded by professional officers. The formation of the many new staffs required on mobilisation absorbs a large number of such officers, who are thus withdrawn from duty with their units. There are, in addition, many details required by the first line of reserves, the Landwehr, and the depôt troops. It will thus be unavoidable that many companies of the line will be in the hands of reserve officers immediately after the first few battles. At the end of the war of 1870–1871 even vice-sergeants-major (*Vice-Feldwebel*) had in many cases succeeded to the command of companies. As early as December, 1870, we find a Bavarian infantry division so reduced by severe losses, that it only possessed in the front a single captain of the line.

Unconsciously the question arises what would have happened if the war had dragged on through one or two years more. We are led to the conviction that, given a state of similar circumstances in the future, a moment must come in which scarcely any but the higher commands will be in the hands of active or regular officers, whilst all the lower will have passed into the hands of the officers of the reserve and the Landwehr.

But, in the course of a great war, it may reasonably be expected that the necessity will arise for the formation of fresh levies of troops, in order to replace casualties, or to compensate numerical superiority on the part of the enemy. As the supply of line officers will have been long since exhausted before such a crisis is reached, only the reserve can possibly supply the leaders. Then eventual success depends upon the capacity of this class, for only good leaders produce good soldiers.

The importance of training a large body of officers of this category cannot, therefore, be called in question. It is equally necessary that the conviction of this being the case should be yet more widely spread.

It is not every one who has the inclination and talent for being a professional officer in time of peace. Every capable

man belonging to good society should, however, conceive it to be his duty to prepare himself to be, when necessity demands, an efficient substitute for a professional officer. In time of war all military routine becomes simplified. The duties of the active officer can surely, with few exceptions, be undertaken by any educated man who is healthy and strong, provided he has only a firm will. And this all will have, if only the importance of this matter be grasped. The desire of attaining the position of an officer in the reserve should be prompted, less by considerations of personal honour, than by a sense of duty.

. . . . . .

Non-commissioned officers and soldiers rapidly come and go in the army; its officers alone are the constant element by which tradition is handed down. Year by year fresh contingents of recruits pass through their hands, and the whole nation in arms is subjected to their influence. The work of great thinkers and of great eras in the army can only be passed on to future generations through the medium of the officers. As the officers, so the army. More true to-day than when it was spoken is Rüchel's saying, "The spirit animating the corps of officers is the spirit of the army."

CHAPTER II

THE COMMAND OF ARMIES

1. *Generalship*

HISTORICAL experiences seem to justify the conviction that but little depends upon the conditions of the army, but everything upon the genius of the general. Indeed, even in these days, the ability of the commander-in-chief may be regarded as the most essential condition of victory. In the wars of the future, too, the personality and genius of the general will always make themselves felt. Yet things have altered in comparison with earlier times. In our day, special qualities are indispensable if the ladder of the military hierarchy is to be ascended up to the height requisite to bring out the highest qualities of a talented leader, and to turn them to good account. We are right in saying that character makes the general. But strong characters are apt to disport themselves in a manner more disadvantageous than favourable to their advancement in time of peace. Had it not been for the French Revolution, Bonaparte and Carnot would, in all probability, have ended their career as lieutenant-colonels or colonels. And Frederick the Great would, beyond all doubt, had he not been born a prince, have retired as lieutenant.

Great generals could only rise up independently of their surrounding circumstances, so long as the armies remained more or less free levies of the people, and primitive naturalism pervaded all their institutions. Under such circumstances, energy and personal influence find the widest scope; it dwindles with the arrival of a settled and orderly state of civilisation. Nadir Shah would, in Germany of the present day, be undergoing penal servitude, for he began his career as a brigand-chief.

The excellence of the troops now stands in a more intimate relation to the excellence of their generals than was the case

in former days. Only where a healthy state of things prevails in an army, will good generals be found at the head of it. The way of these latter is barred so soon as favouritism and the spirit of clique and partisanship enter in, or subservience is more highly esteemed than sincerity and force of conviction.

The legend of brave armies defeated because of the incompetence of their leaders will scarcely be repeated in our days. How is it possible for bad generals to train such good troops ? or how, on the other hand, should men, who have actually formed efficient armies in time of peace, fail utterly in time of war ? Genius may make an exception, in so far that it knows how to achieve great things with means insufficient for ordinary mortals. As a general rule, good armies and good generalship may, however, be regarded as inseparable.

Hence we must not merely examine what qualities a man needs in these days in order to achieve great things as a general, but also what general conditions must prevail in an army to render the rise of great soldiers possible.

The general, in hours of danger, must guide the armed masses according to his will. He must, therefore, be born to rule men rather than to please them. Born rulers are also great soldiers ; and it is easy to conceive that the greatest military leaders must be looked for among the occupants of thrones.

Dominion over others is essentially founded upon the power of will. It is seen in the case of boys at play, how the one who knows how to give the most definite expression to his will leads the whole band. Some of his fellows yield to him from indolence, others from want of confidence in their own power. In later life the same is repeated. A claim advanced with determination seldom meets with opposition ; it inspires respect, and the great masses of mankind like to be impressed by their leaders. They thus acquire a sense of personal security, and that, again, enhances their courage and capacity.

It is impossible to conceive of a strong will apart from self-reliance. This latter quality again presupposes a certain exclusiveness, which is advantageous to the soldier. Highly intellectual natures are apt to adopt a certain universality of view which is prejudicial to success within the narrow sphere of life in the field. Penetrating, as a rule, too deeply into

the real nature of things, and discerning risks and dangers more clearly than others, they are assailed by doubt, that destroyer of self-reliance and that arch-foe of all success. In the hydra-headed council of war, held on October 5, 1806, in the Prussian headquarters at Erfurt, Scharnhorst delivered that memorable saying, that in war it mattered not so much what was done, but that it should be done with vigour and unity of purpose. His warning was not attended to, and, although there was no lack of shrewd heads, only paltry measures were adopted. Clever men usually look too far afield for the *best* method, and fail to perceive the paramount importance of the timely adoption of a *practical* method. How greatness of intellect, which in time of peace enjoys the highest consideration, decreases in value in times of war, when opposed to will, is exemplified by the result of nearly every council of war.* It is undeniable that in an assembly of experienced and capable men, the highest aggregate of intelligence must be collected. Yet Frederick was right in peremptorily forbidding his generals to hold a council of war. That keen judge of human nature knew full well that nothing is ever gained thereby save a majority for the "timid party." The intelligence collected in a council of war is wont to be productive of no other advantage but that of assiduously searching out all the weak points of an army, and of demonstrating the danger of action. Thus the will of the general becomes only still more unsettled and weakened, and a "council of war" has become an ominous word, the sound of which, as a rule, is equivalent to capitulation or defeat. It always had its origin in the presentiment of approaching disaster, and in the commander-in-chief's desire to share responsibility with others. Hence intellectual individuals avail less than men of strong will and abundant self-confidence.

Strength of will may be an object of legitimate pride, but does not benefit its possessor, since it imposes upon him an undue burden of responsibility.

* In time of peace, when will power and courage of responsibility are subjected to fewer trials than in time of war, the worth of an officer is, as a rule, judged too exclusively by his intelligence, which guarantees success in war in but a small measure. Hence the frequent disappointments in the persons of generals for whom, in time of peace, a great future was hastily predicted, and in whom absolute confidence was placed, which subsequently was not found justified.

Courage and love of responsibility are necessary to a general, but are rare gifts. Very many men dash thoughtlessly into the gravest perils while another is accountable, but are irresolute when they themselves have to bear the responsibility. To take this responsibility upon their shoulders may, in case of misfortune, be equivalent to loading themselves with blame. In war, men of high rank behave like children who, when they have done mischief, are the first to exclaim, "That is your doing!" When their eye scans the field strewn with corpses, there is no consciousness dearer to their hearts than, "It is not my fault." It is one of the secrets of the better side of human nature, that guilt is more feared than the consequences of misfortune.

Courage of responsibility is born of a certain nobility of mind which must be inherent in the general, and which ennobles his whole nature. It consists in a sense of superiority which raises above the common herd, *without making one presumptuous*, and which may be innate, or may also be acquired in the school of life. Severe trials purify a well-formed character. They teach him to think little of earthly weal or woe, to face dauntlessly the possibility of suffering fresh disaster, to bear blame, though guiltless, and to be indifferent to condemnation by the crowd and to the displeasure and the hatred of the powerful. Extensive and thorough knowledge may also produce this nobility of mind. Such knowledge certainly makes us recognise the limitations of human wisdom, while, on the other hand, it teaches that war presents us with no enigmas incapable of solution, but that the employment of the natural powers of intellect is all that is needed. Nowhere in the whole system of warfare is there any dark corner which the magician's art alone can illuminate. Knowledge enhances assurance, whilst ignorance is the beginning of moral decadence. The feeling of commanding the means and of having, at worst, to fight against misfortune, steels self-confidence. It tells us, "What others can do, you can do also," and thus stimulates the will to rule and to lead.

Now whether this nobility of soul be a natural talent, or whether it be acquired by education, or in the school of experience, it is the very quality which soldiers most highly esteem in their general. It is a guarantee against the unwelcome effects upon them of danger and disaster. It gives

that calm tranquillity upon which excitement breaks as a ship upon a rock in the sea ; it produces an even balance of mind, diffusing a comforting effect, like an electric current, over the whole army.

"A strong mind is not one merely capable of strong emotions, but one which preserves its equilibrium when worked upon by the strongest agitation, so that, in spite of all inward storms, the action of intellect and reason remains as keen as that of the needle of the compass on the tempest-tossed ship."

"Strength of mind," as thus depicted by Clausewitz, corresponds practically with what we have termed "nobility of mind." It inspires confidence throughout the whole army, from the private soldier to the general.

Courage of responsibility and nobility of mind are now more necessary to the general than ever, owing to the increasing dimensions of armies, and their wide dispersion in the theatre of war. The uncertainty of subordinate commands must, of necessity, increase, because of the difficulty of appreciating the situation as a whole from their particular situation. On the other hand, the possibility of immediate control from above is proportionately diminished. The commander-in-chief thus finds himself more frequently in the position of being obliged to accept responsibility for events, the course of which he is unable to direct. Relying on inaccurate information, or short telegraphic reports, he must, without personal knowledge of local conditions, order operations which, perhaps after much bloodshed, fail in their object. He then is made responsible, and upon him the reproaches are showered.

In the Franco-German war, such orders were despatched from Versailles to the Lisaine, to the Loire, and the North. They were successful, but chance circumstances might have caused them to end in disaster. The general must be aware that, even with the most careful deliberation, he is playing a dangerous game, upon which he stakes his reputation, his safety, and, it may be, his very life. The French general who, in order to rid himself of personal responsibility, empowered his subordinates, in all doubtful cases where they could not ask for orders, to act as if they had actually been received, was well acquainted with war and with human nature.

Before the introduction of long-range weapons, battle fields were of about the size of the present manœuvring ground for a brigade. Even those who visit the battlefields of 1864 are astonished to find how short all the distances are and how closely the several features detailed in the accounts are adjoining. From friend to foe at Missunde, Oberselk and Oeversee, it seems, according to our notions, a mere stone's throw. The visitor to Waterloo and Hochkirch will be still more impressed by this. The dispersed order of battle was then yet unknown. Thus the possibility of unexpected clashing on the part of subordinates was more limited. An army formerly advanced, before the battle, to within a distance of the enemy at which we should now stand in the most effective range. The general, before making his decision and completing his dispositions, could personally examine the condition of affairs. Frederick severely reproached himself for not having made a personal reconnaissance of all the ground over which his attack led him at Kolin. Whoever would do that in modern wars would always be behindhand with his arrangements. Frederick and Napoleon followed the movements of all their troops until the moment arrived for them to engage in the battle. But the great King was, as a rule, only at the head of 30,000 to 50,000 men, and although Napoleon commanded vast hosts, they were closely packed together in dense columns.

In these days it is seldom possible to find a position whence the whole battlefield could be surveyed. At all events, the field is too extensive for personal direction of the troops on either flank. The orders carried by a swift horseman often take so much time in transit, that the circumstances under which they were issued have, in the meantime, completely changed. Intelligence and messages from distant parts of the battlefield are not always clear, sometimes contradictory. Hence the general must act, so to say, on hearsay, which demands greater courage of responsibility than was required fifty or a hundred years ago, and only a strong, self-conscious mind will thus be equal to the task.

The general undergoes his hardest trials in the days of disaster. He must possess the special gift of being able to bear disappointments and the buffetings of fate, of whatever sort they may be. There are characters, vigorous in other respects, which lose their tranquillity, their presence of mind,

and their patience upon their hopes being dashed to the ground. We characterise that quality which is especially successful in combating the depressing influences of misfortune, as "greatness of soul," and attribute this quality to our ideal of a general.

Thus it follows that a number of great qualities, purely human, are also identical with great military qualities. Among the other gifts indispensable to a general, it appears only necessary for us to bring into prominence those about which something special remains to be said. For we must take it at the outset to be self-understood that he cannot exist without circumspection, courage, boldness, enterprise, foresight, discernment, perseverance, etc., since every good soldier must possess these qualities.

A thorough knowledge of the secrets of human nature is very essential to a general. An army is a very sensitive body, not a lifeless instrument, or a set of chessmen to be moved backwards and forwards, according to calculation, until the enemy is checkmated. An army is subject to many psychological influences, and its value varies according to its general feeling. Disaster depresses its courage and its confidence; any advantage, though trivial in itself, animates its hopes and strengthens its discipline. The same troops are not to be recognised at different times, so differently do they comport themselves. Influences very keenly felt at one time, at another pass by without notice whatever. How often has it not been said, that orders and counter-orders, marches and counter-marches, without any apparent object in view, or even night-operations, are sure to disorganise the best army in the world? Now an army has seldom been led backwards and forwards, marched during the night, halted, ordered and changed about, more often than the army corps of General v. Werder, from the 1st to the 10th January, 1871, and yet there was no trace of disorganisation. This instance proved the serene confidence of the soldiers in their leaders. The men felt instinctively that they were in good hands, in spite of all apparent vacillation, and that there was no reason to lose confidence. It does not signify so much what demands are made, as how and by whom they are made. All rules that could be laid down on this subject are futile. The general must understand how to look into the hearts of his soldiers, in order to estimate rightly what may be required of

them at a given moment. He must be a judge of human nature. Scharnhorst long since bewailed the fact that the psychological side of the science of warfare is so little known, and "that the chief use of history—the difficult and yet so profitable knowledge of the human heart, which is attained by nothing more readily than by the investigation of events, themselves a consequence of great and far-seeing plans—is almost totally lost." Modern military history, even more than the old, breaks away from a discussion of the psychological element. It is content, in a concise style, which reminds us of the simplicity of form of antique architecture, to record facts or to make critical deductions, without describing the ground colour of the completed picture. Thus it comes to pass that many soldiers, excellent in other respects, err in the direction of either, judging by their own unwearying energy, overtaxing their troops, or, by putting too low an estimate upon the powers of their personal influence, of demanding less of their soldiers than they are capable of performing. Hackneyed dicta as to the sparing of troops in war finally lead to bad habits, which, once firmly rooted, become a power like the "spirit of the Prussian army" of 1806, which did not permit of living on the country or of lying down in the face of the enemy's fire.*

A less appreciated, but yet indispensable, quality in a commander is imagination, the stepchild of our modern method of training. It flashes before the eyes of the young man pictures of glory and greatness, and fires him to emulation. Yet this is not its highest sphere of usefulness. A too lively imagination may even lead to an overestimate of one's own power and to the taking of false steps. But, for other purposes, it is most essential to a general. He must be able to clearly picture to himself, at any moment during long and intricate marches and operations, the position of his own troops and the probable situation of those of the enemy. And more than this, he must foresee the situation as it will

* We must not, in this place, fail to point out a danger lurking in the war game and in the staff tours. In these exercises, which in other respects are rightly valued as highly conducive to efficiency, as a rule only an average amount of work is assumed, in order that both sides may act under equal conditions. By this means we become accustomed to regard average performances as the only possible. But it is precisely the extraordinary performances to which, in war, great successes—nay, success even in any sense—must be attributed.

be at the expiration of two, three, or even more days. Jomini extols this quality in Napoleon, and attributes to it the rapidity and ease of all his arrangements. The positions of his corps, divisions, and brigades at any given moment were always present to his mind. He therefore forgot nothing, and never failed to notice chance means to the end in view; he thought of things which every one else would have forgotten, and was rich in inspirations. Such is principally the work of imagination. It is of assistance, also, in the study of military history, which should meet it in a more attractive form than it is generally clothed in. It paints in the small details and facilitates a harvest of experiences being gathered which are, perhaps, merely hinted at in the historical narratives. An ill-controlled imagination, which has not been compensated by a careful study of history, is certainly open to suspicion of liability of depicting fantastic dangers. But in anxious minds the same apprehensions are frequently due to a sheer want of imagination, and thence spring a thousand doubts, bringing wrong orders in their train. The enemy is supposed in a place where, if his last position and the time since elapsed were taken into consideration, he could not possibly be expected to be. Useless precautions are taken where other divisions of the army, if the situation were only properly grasped, must already have adopted them. The fatal splitting up of forces, also, is frequently due to deficient power of imagination. Imagination simplifies the interpretation of the commands and dispositions of superiors; it aids us materially in finding our way over unknown ground, because it presents the actual map clearly to our mind, and facilitates recognition of the actual features. Finally, it aids us more than we realise in the conversion of theory into practice.

If there were always time for computation in war, one might perhaps be able to dispense with imagination, and make one's dispositions on the map, compass in hand. But in the heat and excitement of battle we lack both the leisure and the calm requisite for solving such geometrical problems. The power of imagination must know how to conjure up a picture that shall serve us as a basis for subsequent action; and in order to prevent distortions and dislocations, the commander must not fail to exercise his fancy and to keep it working.

As a rule, the importance to a general of a good memory is under-estimated.

Napoleon compared a man full of genius, but without a memory, to a fine house without furniture, and to a stronghold without a garrison. War is a perpetual struggle with embarrassments which the enemy either causes us or attempts to cause us. Our object, therefore, must be to discover means to help ourselves out of every strait, and, in this our endeavour, the recollection of similar situations in former times, and even of instances recorded in military history, is of extraordinary assistance. Even the most inventive brain would fail, if a good memory did not afford it effectual aid. The latter alone enables us to profit by our experience. Moreover, war demands great care in numerous details, trivial in themselves, but upon which the well-being of the troops depends. The head-quarter staff is continually called upon to solve problems of the most varied kind, from directing a straggler to his corps to questions affecting the lives of hundreds of thousands. Every item must be disposed of in a business-like and expeditious manner, which requires a most excellent memory. Memory, moreover, is not by any means a uniform faculty. Its objects are names, persons, facts, numbers, etc. Next to the historical and geographical memory, that for persons appears to be the most useful to a general, since it enables him to bring the right persons into the right places.

One of the most important talents of a general we would call that of a "creative mind"; because to term it "inventive faculty" appears to us too shallow. There are but few men who have original thoughts. Ben Akiba's saying, "Nothing new under the sun!" is as true of the world of ideas as that of phenomena. Most people in these days only make use of what they have inherited or acquired. But in war situations are of such a nature that they appear similar without ever being quite the same. The number of causes and forces is too great to admit of absolute similarity. The general cannot, accordingly, employ the exact means that have been already adopted on a previous occasion. At any rate, there will be something entirely new in the manner of their application. Some slight addition of personal invention is always necessary, and that requires the aid of the ever productive power of the creative mind, as well as the will to employ it.

This stimulates us and enables us to depart from the beaten

track and enjoy freedom of movement. By this alone the general gains a great advantage over an opponent who lacks this gift. He will continually *surprise* him.

Now, if will power, ambition, and a love of fame are combined with creative power, the result is an irresistible spirit of enterprise, and it is rightly asserted, that of two generals who are in other respects equal, the most energetic must gain the day. This love of action was the secret of the fame of Alexander, who has been aptly compared by a writer to a man travelling in arms, who was always full of impatience, fearing that he might be delayed.

The mention of this love of action leads us yet further. It makes great claims upon our energies, not only the intellectual, but also the physical. Good health and a robust constitution are invaluable to a general. There have, it is true, been famous generals who were sickly, but that only proves the extraordinary vitality of their spirit, and that they would have been able to achieve much more, had not a part of their energy been devoted to the suppression of their bodily ailments. Torstenson commanded his army from a palanquin, and conducted brilliant campaigns. But we also know that disease at last overcame him, and that he was obliged, when little over forty years of age, to take leave of his army and his victories, to retire to a sick-bed on his estates. Gout made Sweden the poorer by one great general and a series of successful campaigns.

Nature demands her due. In a sick body, the mind cannot possibly remain permanently fresh and clear. It is shunted by the selfish body from the great things to which it should be entirely devoted.

At the present time, when, with the exception of a few favoured on account of high birth, men are allowed to become old before being called upon to act in an influential position, good health is doubly and trebly indispensable to leaders. Their duties, especially in the German army, are very exacting; and only a very tough constitution can hold out long enough to ascend to the highest steps of the military ladder.

That a prosperous material position facilitates and does not impede the advancement of an aspiring commander, follows from what has already been said about officers generally. Such a position gives self-confidence and a feeling of independence, and, when used prudently, helps to maintain

physical freshness and health. Riches are only dangerous to men of mediocre stamp.

Bravery, too, deserves a few words of explanation, although it must naturally be assumed in the case of every soldier. A general needs a special kind of bravery. It is said nowadays, and with a certain show of reason, that all the world is brave, and that this quality is nothing so uncommon that great expectations should be based upon it. "But to assert that everybody is brave, is equivalent to declaring that everybody is a painter, a musician, or a mathematician."

The gods and heroes of antiquity had no scruple in fleeing in battle from one stronger than themselves, and they were not even, on this account, excluded from the Olympian banquet. Our modern conception of courage, according to which the warrior is bound to defy even danger to which he thinks he must succumb, is deeply rooted in the ethics of Christianity and in our ideas of self-denial and self-sacrifice, which require of us to esteem our own life as nothing at duty's call. In this sense the soldier who has never before set foot on a ship swears to be faithful on water as on land, although fully conscious of his helplessness on that element. The high idea of faithfulness to duty, which is implanted in us by training, induces at last even the timid man to show himself brave and to suppress his fear of death and danger. The numerous examples of such devotion all around him carry him onward in spite of himself. The fear of being despised by his companions in arms as a miserable coward is in the end greater than his fear of death.

But it is not this kind of bravery, acquired by training, that can avail the general. He requires that innate courage which is a rare quality of great men, and which serves its possessor without his being conscious of it.

Sense of honour and *amour-propre* keep most men firm in the face of peril, and externally, at all events, there will scarcely be any difference between them and those in whom courage springs from a stout and noble heart. But the former are preoccupied with themselves, with their courage, and with their bearing, and a great part of their moral power is absorbed in self. Their usual lucidity will be found wanting, the beams of their mental activity will fall in extraordinarily thick rays, and, perhaps to their own astonishment, they will find themselves unequal to their task. Innate courage does

not need an artificial stimulus in order to maintain itself; to it contempt of death is a thing so natural, that it does not absorb any of the other intellectual and moral qualities, but, on the contrary, brings them all more actively into play, as the excitement of the moment only augments the internal pressure which intensifies all power.

And so we admire, in illustrious soldiers, that they always become more clear-sighted and resourceful in moments of the greatest danger, while all around them are working with blunted senses. Only courage of a kind incapable of understanding how it is possible not to have courage singles out the true soldier among his fellows. It is such courage as Shakespeare attributes to Cæsar when he puts into his mouth the following words:

> Of all the wonders that I yet have heard,
> It seems to me most strange that men should fear;
> Seeing that death, a necessary end,
> Will come, when it will come.

From the great number of conditions, all of them difficult to fulfil, it follows that perfect generals are a rarity, a fact which has never been gainsaid.

2. *Head-quarters and Chain of Command*

It is not necessary for us to search foreign military history in order to study the unhappy constitution of a head-quarters. Our own furnishes us, unfortunately, with a perfect example. In the year 1806 the composition of the head-quarters of our army was such as to render efficient command almost impossible. Clausewitz speaks jestingly of a Congress convoked to lead the army, and appearances certainly bore out his words. The Duke of Brunswick in theory commanded the whole forces, but the command of a separate portion of the army, the so-called main army, was also entrusted to him. Prince Hohenlohe, at the head of another great division, was on a footing of neither equality nor subordination. His reputation as a General was almost as high as that of the Duke; in the army he was, in fact, sometimes thought the better man. He conceived himself bound, for the good of the country, to play an independent *rôle*, and to attract much influence to himself. His quartermaster-general Massenbach encouraged him in this opinion. Rüchel's case was similar.

For both of these men separate armies had been formed in order to satisfy their supposed just pretensions. But the King also was with the chief army, commanded by the Duke. The King had really only come in order to stimulate by his presence the energy and the rapid execution of all measures, although his influence naturally extended further, for the Duke, before taking decisive steps, proceeded to hold councils of war, at which the monarch was present. The King was attended by Phull, the senior officer in the general staff, and virtually its chief, since the nominal chief, Geusau, entirely absorbed in administrative duties, did not concern himself with the command. Field-marshal Möllendorf was also with the King, for though, owing to his eighty-two years, it was not proposed to give him active employment,* it was believed that the benefit of his experience was needed. Similarly Zastrow, in whom Frederick William III. had since earlier times felt special confidence, was summoned to the royal head-quarters. Colonel Kleist, the adjutant-general, was attached to it, owing to his influential position. A subordinate *rôle* was played by Kalckreuth, who commanded the reserves of the main army, and always attended the persons of the King and the Duke. Diplomatists, too, took part in deliberations and decisions. In these conferences Scharnhorst was the only one who took the part of the Duke, whose chief of staff he was. Junior in rank to Phull, even to Massenbach, and new to the army, he had not the gift of making his personal influence felt at once. The side of the actual commander-in-chief was accordingly, even in point of numbers, doomed to play an inferior part throughout; the King's personal adherents giving the casting vote. Instead of leading, the Duke was being led, and this, says Clausewitz, he suffered complacently.

In the council there was no lack of able men and highly-educated, excellent soldiers. Some of them—Scharnhorst, Kleist, and, we may add, Phull also—subsequently attained great historical renown. Their joint achievement in this instance was, however, worse than nothing—in short, the acme of confusion and indecision.

The cause of this unfortunate condition in the supreme command was exclusively due to the creation of commands and staffs in deference to the personal claims of the leading personages. Unfortunately, considerations of this kind, in

* In 1805 he had still held command of a reserve corps.

the absence of a strong man at the head, are apt to make themselves felt in even the most momentous questions.

The proper constitution of the head-quarters, especially harmony between the commander-in-chief and the chief of his staff, can do much towards supplying the want of the heaven-born military genius mentioned in the preceding chapter. Definite rules on this point cannot be formulated.

A happy co-operation depends in the first place upon personal sympathy. In the absence of the latter, all theory leaves us in the lurch. The mutual complement of different natures is impossible in the absence of some common basis, and differences existing must be restricted to certain gifts and aspirations. The chief of the general staff is differently situated in relation to the head-quarters than the commander-in-chief. He has the choice of a number of persons from whom to select those most suited for his purpose, as well as being acceptable to him in personal intercourse. The commander-in-chief, on the other hand, is dependent upon the person of the chief of the general staff, and cannot put him on one side without producing confusion. A happy selection in the first instance is, therefore, of supreme importance. Bad relations between these two men must produce the worst possible effect upon the fortunes of the whole army. The public will seldom hear anything of the matter, and the cause of failure will be looked for elsewhere than at its real source. The internal relations of the staff are seldom laid bare, unless great disasters are followed by polemical writings or the investigations of courts-martial. We are at once reminded of Bazaine and the chief of his staff, Jarras, whose want of agreement has been disclosed to us by the trial of the marshal. Their previous relations had been good. But Jarras, while the Emperor himself held the supreme command, that is, from the commencement of the war until the afternoon of August 12, 1870, filled the position of a second chief of the general staff, under Lebœuf. Hence, when assigned to him by the Emperor as chief of his staff, Bazaine regarded him as an inconvenient spy, whose duty it was to criticise his actions, rather than to second his efforts, besides which, General Jarras had been left without any information as to the general situation of the army. This latter circumstance rendered it difficult for him to be at once of real assistance to the Marshal.

Bazaine, therefore, kept him at a distance from the

affairs of the command, assigned to him a purely passive *rôle*, and regarded him as really nothing more than a secretary of high rank. The consequences soon became apparent. On August 12, the Marshal resolved to march away with his army from Metz to Verdun, to avoid being shut in. The design was correct, but the method of execution was the most deplorable imaginable. Bazaine himself had given orders for the march by Mars-la-Tour and Etain to Verdun. It thus happened that, whilst four roads might easily have been utilised, the whole army, with its cumbersome baggage, was placed upon the single road leading from Metz to Gravelotte, and was blocked up for days in the narrow valley of the Moselle. If the independent action of individual subordinate commanders had not afforded some relief, the confusion would have been still greater, and it would have been utterly impossible, even by August 16, to deploy the army for battle. "At a moment when the question of hours might decide the fate of France, the most elementary measures of precaution were neglected." * Bazaine threw the blame upon the chief of the general staff, who, on his part, declared that he had not heard anything about one whole movement until it began to be carried into execution. Which of the two is right, and which is wrong: whether or no Bazaine purposely failed to consult Jarras, or whether Jarras rashly felt himself offended, and held back at the wrong time, is certainly hard to determine. The mutual relation of the two was, in any case, a false one. Neither of them ought to have tolerated it; for it certainly contributed, in no slight degree, to the destruction of the army—and the army paid the penalty.

The modern commander can no longer be all in all. Even a high genius will require independent and trained assistance, how much more then must a commander who is not a star of the first magnitude be in need of counsel and assistance! The exercise of the command of an army has become too great a task for one single individual. Besides, there are questions of a technical nature which require special knowledge to deal with them.

For psychological reasons, again, intimate relations between the general and the chief of his staff are no less essential. A general will always suffer limitation by a sense

* Words from the act of indictment of the Marshal.

of responsibility, and his freedom of judgment is apt to be imperilled by the same cause. It is, therefore, advisable to supply him, so to say, with a second mind, which, free from this strain, will find it easier to preserve its complete objectivity and freedom of thought. A balance of sentiment will establish itself between the two minds, and anything resulting from purely personal feeling will be eliminated in the process of arriving at a decision. Mutual intercourse must, however, be on a footing of perfect mutual confidence.

The commander-in-chief, even when he is not the supreme head of the whole forces, should, accordingly, be allowed, as already urged, to appoint the chief of the general staff himself. He ought to be assured that during the most important period of his life he will not be tied to a person towards whom he has an antipathy. How much will not his action depend upon his state of mind! and this again is, in great measure, influenced by the nature of his relations with the man with whom he must work together daily and hourly for the solution of the most serious problems.

The proper functions of a chief of the general staff are not regulated by rule, and do not lend themselves to strict definition. Individual condition, abilities, and personal bent must decide all. Frederick and even Napoleon were virtually their own chiefs of the staff; and yet the former missed Winterfield, and the latter Berthier, when obliged to do without them.

King William, in 1870, allowed complete latitude to the chief of his general staff, General v. Moltke, in issuing orders regarding movements, decided on in personal consultation, to the several army head-quarters. Such orders, though bearing the signature of the chief of the general staff, were regarded as royal decrees.

The constitutional monarch of a modern civilised state, who is, even during the war, absorbed in the cares of government and harassed by questions of internal and external policy, will be obliged to allow greater freedom of independent action to the chief of the general staff than a general who, like Napoleon, mounted a throne, and whose government is, strictly speaking, merely a military dictatorship.

Quite different again must be the state of things where one general in the army takes the place of the commander-in-chief, and another acts as the chief of the general staff. In this case both are able to devote their entire energy to the com-

mand of the army, and the scope of action of the chief of the general staff would naturally become somewhat restricted.

The one fact, however, remains, that the general must devote his best efforts to the resolution of the main questions, to subduing inevitable doubts, and to assuring absolute clearness of view. It is not wise to take upon himself too much of the details of execution, a fault to which small minds are very much inclined, in order thus to soothe their inward unrest. Employment certainly acts as a palliative in such cases, though men but imitate the ostrich, plunging into work, and forgetting over it the anxieties of the moment. A general may not resort to this expedient; otherwise he runs the risk of losing sight of important questions and becoming absorbed in petty trifles. If, after consultation with the chief of his staff, he has decidedly declared his will, and has agreed with the latter upon the general plan of operation, everything else, the carrying out of orders and the arrangement of the various details, had best be left in the hands of the staff. That commander-in-chief who insists upon the writing and revision of his own orders, robs his mind of the leisure necessary for the conception of fresh ideas. He ought to think, rather than wield the pen.*

With armies of great strength, the chief of the staff must avoid giving too much time to paper work, since he ought at any moment to be at the disposal of the commander-in-chief, in case the latter needs his advice. The very necessity that work with the pen, once taken in hand, should proceed without interruption, demands that it should be left to some one not liable to be called away. It is doubtful praise for a chief of the general staff, if, in the ordinary sense of the word, he be called a great worker. He must, certainly, display untiring energy, but this should manifest itself in direction, rather than in personal work. Certain orders, especially important documents, directions for decisive movements or battles, will have to be written by him with his own

* The number of troops is certainly of moment. An intelligent and independent general at the head of an army consisting of only a few divisions may himself, if only to facilitate greater expedition, jot down on paper the few orders required. But in that case, he is, as a matter of fact, only a simple general, and commander-in-chief in name only. The remarks above refer principally to great armies of five or six army corps and several cavalry divisions, which nowadays are considered the normal combination.

hand. The same applies also to confidential correspondence with the great general staff and its chief. But of the ordinary routine work he must throw as much as possible upon other shoulders.

The twofold nature of his position naturally makes it sufficiently trying. Looking upward, he must be the counsellor, friend, and confidant of the commander-in-chief, and, in the other direction, the organiser and director of a numerous staff, frequently composed of very heterogeneous elements.

If it be true that the energy of a commander-in-chief is, under certain circumstances, dependent upon his state of mind, this is equally true of the whole staff. Its chief gives, by his bearing, the tone to the whole body. If this tone is a happy one, replete with general contentment, and if all pull together in a spirit of good comradeship, the machine will work doubly reliably, quickly, and well. Dissension and bitterness are apt to enter a mixed collection of persons with the wrong man at the head, and may ruin all, even though some members of the body be of the best. In principle the head-quarters of an army should be composed of the best men in that army. In the case of each individual officer employed on the staff, more than in that of others, it must therefore be beyond doubt that he is ready and willing to do his best.

Official brusqueness, too, is less justifiable now, and will avail less than formerly. The more friendly the official relations, the greater the prospect of everything working smoothly. It must also be remembered that a beam of light from the inner circle will invariably fall on the army without. Discord, or the opposite, in high places communicates itself to the troops, and exercises great influence on the efficiency of armies.

From the double position of the chief of the general staff it follows that the post requires a man not only of talent, but also of a certain personal charm, which gives him a natural influence over others. There are many people who, in the most friendly possible way, can exact work to the utmost capacity of their subordinates, and men of this stamp are pre-eminently qualified for the position of chief-of-staff. As there is no fixed rule defining the position of the commander of an army, so there is also not one regulating the

functions of the individual members of the staff. The republican freedom thus created has great advantages. Where in time of peace no army corps organisation exists, the staff will be formed as required. Officers of the general staff and aides-de-camp are collected from every part of the country, and are often neither known to each other nor to their chief.

If individual duties were assigned beforehand, according to rank and seniority, such arrangement would, at first sight, certainly seem to have the advantage of simplicity. But this advantage is only a small one, since it does not compensate the grave disadvantage of it being more or less a matter of chance if the right person falls into the right place. Given a few days, colleagues become accustomed to each other, and each will gravitate towards the place most suited to his individuality. Little depends upon considerations of rank, but everything upon harmony.

It is necessary to relieve the chief of the staff, not merely of work, but also of a number of small cares incidental to the daily life of an army. Though, therefore, he ought to set the general tone of the head-quarters, his time ought not to be taken up with the settlement of every detail concerning a community of fifty, sixty, or seventy officers and officials.* He therefore needs a deputy, so that questions, disputes, and difficulties will not find their way up to himself.

The quartermaster-general in the great head-quarters, and the assistant quartermaster-general in each separate army or army corps, can create for himself a wide sphere of usefulness ; for there are innumerable matters, each of which by itself does not exactly decide the fate of an army, but a combination of which exercises a considerable influence upon it. Numberless questions of interior economy affecting the well-being of officers and soldiers occur daily, to deal with which neither the commander-in-chief nor the chief of his general staff will find time. All such matters fall within the province of the quartermaster-general. His instrument is the orders of the day, which, independent of the orders for the movements of troops, cover the whole range of the inner life of the army : personal matters, the transport of prisoners, sick and wounded, the posting of reserves and reinforcements,

* In the great head-quarters of all armies these numbers will increase five- and six-fold, and, in spite of all possible limitation of numbers, there will always be an enormous train of followers.

as well as the many detachments to be supplied, etc. It is also his special duty to keep all the wheels of the machine in uniform motion, and to regulate their working, as well as to exercise supreme control over the office work of the head-quarters.

Proper regularity in the performance of the highly important office duties necessitates the assignment of a special officer to the duties of secretary, though it may not be necessary, or desirable, to describe him by that title. Very often as much depends on the correct and rapid distribution of orders as on their careful preparation. There will be no lack of persons of a bureaucratic turn of mind, men with a fondness for a well-oiled office mechanism, and who take as much delight in the dexterous disposal of piles of paper work as the commander-in-chief in a battle won. It is, however, imperative to keep from an office, already invested with a certain outside and ostentatious importance, all swaggerers, who, for the sake of their own glorification, treat the merest trifles with undue seriousness, who in their pedantry neglect the essential, and in their trumpery spirit are a continual source of obstruction in matters of real importance. Quiet conscientiousness and discreet reserve are the qualities demanded.

The general staff, which, according to the size of an army, generally consists of from four to six officers, is mainly responsible for orders relating to movements, quarters and combat; in a word, all orders relating to operations in the field.

A special art, which again demands special aptitude, consists in the drafting of orders,* which is not the business of everybody. Persons with the best ideas do not always understand how to express them clearly in writing. Proper sequence being of paramount importance, and as this demands good memory, responsibility for orders must be centred in a single individual. And as pressure of time will generally obtain, it will not even be possible to assist the

* In this connection we naturally exclude the usual orders for the movement towards the theatre of war, which are of the stereotyped order, the only variation being in the names of places. These require no skill, and soon yield place to measures demanded by uncertainty in the situation during actual contact with the enemy, and by the prospect of impending battle.

experienced staff officer entrusted with this duty by previous preparation of details. In view of the probability of circumstances necessitating fresh dispositions at short notice, the officer in question must be ready for work at any moment, day or night, and such contingencies supply the crucial test of clearness of thought and expression, combined with general working capacity. Indefatigability must form a prominent qualification of this particular officer.

The general staff must, next, control the intelligence department. Knowledge of the enemy's country, its language, and its military organisation, are special qualifications for this kind of staff work, to which may be added a certain detective instinct, difficult of exact definition. Application and cautious observation are generally of greater importance in the service of information than the gift of fathoming secret designs.

The written work of the general staff comprises reports and statements regarding military movements and the communications with the base at home by rail and wire ; also the necessary correspondence with the enemy, with the civil authorities of the country in which the war is being waged, and in connection with books and maps ; lastly, the keeping of an official diary of events.

Besides this it will have to collate reports of reconnaissances, receive information relative to its own forces, or those of the enemy, undertake the transmission of orders and oral instructions, elucidate misunderstandings, and superintend the execution of all orders.

The adjutant's department of the staff of an army is charged with personal matters, such as promotion, requests, the grant of decorations, the preparation of casualty lists and returns of effectives, the recruitment of men and horses, questions relating to arms and ammunition, and correspondence with private individuals.

A certain number of orderly officers is always indispensable to the head-quarters, their special duties consisting in the carrying of written orders to subordinate commands. In their selection great value must be attached to efficiency, endurance, punctuality and determination in overcoming unforeseen difficulties. Long and solitary rides in hostile country, especially when the population is excited, require determined courage, good horsemanship, and a good horse.

The best-mounted cavalry officers, with an undoubted reputation for doing their duty, both day and night, with alacrity and adroitness, are chosen for this kind of employment at head-quarters. Both man and horse can perform more in time of war than a layman generally imagines. An orderly officer of Prince Frederick Charles covered the distance between Orleans and Vierzon and return—about 100 miles—on one winter's day during the Loire campaign, upon the same horse, and similar feats were of frequent occurrence in the German armies. At the head-quarters of the second army it was found by experience that, for distances up to about fifty miles, it was best to have orders conveyed directly by orderly officers,* and only to employ other means, such as relays, for greater distances.

Given favourable climatic conditions and good roads, the mounted orderly officer of the future will meet a strong rival in the cyclist orderly officer, who will even be his superior at long distances. The cyclist cannot, however, displace the horseman, who is independent of roads, and the former is disabled by bad weather and heavy snowfall, besides being individually more defenceless than a horseman. The scope of the cyclist on lines of communication will principally be within the area of his own army and within districts less exposed to hostile intervention.

In the absence of telegraphic connection, communication between the various head-quarters is kept up by field couriers (*Feldjäger*), several of whom are attached to every staff. These make their journeys, as a rule, by carriage or by rail.

Individual freedom and latitude are as desirable at head-quarters as in other places. Yet, in certain branches of staff duties a mechanical system may be advisable, so that, in times of great excitement, some things may not be forgotten or neglected when most necessary. It were well if every member of the head-quarter staff were obliged, in addition to his

* It is a commendable practice always to send two orderly officers together on considerable and dangerous distances, not only for the sake of greater security, but also because horses go better in company, and remain fresher. It is seldom of advantage to send soldiers with them. One or two horsemen, in the case of a brush with the enemy, can do but little service and their horses are, as a rule, not good enough to keep even pace with those of the officers. They would, therefore, be more likely to be a drag and a cause of embarrassment, than be of service.

ordinary duties, to take up some one special subject. We only need remind our readers of those numerous cases where armies have lost touch of the enemy. The reason is almost invariably to be found in the fact that the careful attention usually paid to the service of information was temporarily relaxed owing to all minds being under the charm of powerful sensations. This is especially the case after bloody battles, and late wars afford us sufficient examples. Nothing is easier to explain: a pending decision by arms captivates all the senses and all thought. A reaction takes place, and over-strained nerves resume their normal condition immediately the decision is over. Each corps will, as a rule, be content for the moment to rest on its laurels. Time passes unobserved, till people begin to rub their eyes and then make the discovery that the enemy has gone, and all touch of him is lost. In head-quarters, in moments such as these, complaints are loud as to the non-arrival of any intelligence whatever from the troops. The fact is overlooked, that a comparatively large number of well-mounted officers is available to span the gap by a rapid ride in the tracks of the enemy. The men who ordinarily attend to the most important orders are at that moment occupied with other matters. A gathering of the higher staffs, perhaps including even the staffs of various army corps, on the scene of recent victory, is frequently responsible for the fact that over a discussion of the immediate past due care for the future is forgotten. It would be a capital arrangement if a man, not too much occupied with other duties, and not too high in rank, were made solely responsible for the uninterrupted maintenance of the service of information. He might conveniently be given certain independent authority over the younger officers of the general staff and the adjutant's department, who would mostly suffice to supplement the activity of the troops in intelligence service, or to supply their deficiencies in this respect.

This merely by way of example; experience will teach us that a similar method in other matters will bear good fruit.

In the case of the representatives of the auxiliary arms, the chiefs of artillery and engineers, who act as advisers to the commander-in-chief, as well as their staffs; also the administrative services, the department of the commissary-general, the surgeon-general, the chief of the field police, the heads of the postal and telegraph services, etc.

Officers of the general staff, adjutants, etc., seldom have time in the field to attend to their own affairs, their servants, their horses and baggage. The office tent demands their attendance immediately they dismount, and they frequently only leave it again when another forward move is made without having time to look after their own belongings. But a lame horse, a lost shoe at the moment when, perhaps, a long ride is in view, annoys us the whole day long; whilst a mis laid chest, when one is anxious to start work at once, will utterly ruin the temper. Individual complaints of losses are the more annoying, as no remedy exists. It may be said that trifles ought to be disregarded in such momentous times; but the fact remains that we are men, and remain human even in war. That feeling of personal importance which the first few days will satiate, wears off when a campaign lasts for months, when the trivial annoyances of daily life will make themselves felt in a growing degree. The commandant of the head-quarters who tactfully assumes a fatherly *rôle*, and, in his capacity of universal provider, clears away all rocks against which contentment and good humour are apt to be shattered, deserves not only the thanks of those immediately concerned, but, indeed, of the whole army.*

For similar reasons the billet-master of the head-quarters is an important personage. A man gifted with gastronomical talent should, if possible, be discovered, able and willing to cater for the bodily wants of his comrades. Hunger and thirst cannot, after all, be disregarded by even the most enthusiastic soldier. At the head-quarters, however, all those holding positions of any importance have no time to provide for themselves. This care must be taken from their shoulders. The general in command ought certainly never to be troubled about personal comforts. His staff is there for the express purpose of removing every stone from his path, and his servant should, like himself, be a genius in his profession. It is beyond doubt that a man who, in the midst of his great exertions, lives well, keeps himself in every respect fresher than one who is starving. These small considerations must not, therefore, be disregarded, as otherwise they come to

* Associated with him is the commander of the head-quarter guard, *i.e.*, a small detachment of men which is assigned to the head-quarters for orderly duties of all sorts. He can render valuable assistance to the commandant of the head-quarters.

the surface at the wrong time, and forcibly wrest their due.

Lower authorities, such as the staffs of army corps, divisions, etc., usually exist in time of peace, and the work of their several departments is regulated by long habit. Their organisation corresponds essentially to that of the head-quarters of the army. The further we descend in the scale, the wider becomes each individual sphere of action. In a division, for instance, the two officers of the general staff attached in time of war must display greater versatility and activity than is demanded of a staff officer of corresponding rank employed with the great general head-quarters.

A felicitous composition of the various head-quarter staffs, a happy choice of the men to be associated for the whole period of war, and a clearly defined division of labour, are the foundation of the efficient leading of armies.

3. *The Command of an Army*

It is a difficult art, to command properly. In the course of life one learns that it does not matter so much *what* and *how much* is commanded, as *how* commands are given. Parents gain the best possible experience with their own children, feeling that obedience depends very much upon the more or less decided tone in which the command is given. The tone of the voice often implies doubt, when, in spite of the most violent expressions and most energetic gestures, disobedience becomes a foregone conclusion. In relation to our children we follow the rule of forbidding nothing where, owing to the force of circumstances, disobedience may be anticipated; and of commanding nothing to be done, the subsequent accomplishment of which is bound to prove impossible. But above all things—and who fails to realise this?—every command must be clear, so that its recipient will know exactly what is expected.

These simple rules also apply to the conduct of war; there is no higher wisdom. But, however simple, war is such a complicated business that their application is not so easy. In war, great responsibility attaches to every order, and a mistake is promptly overtaken by its punishment. That fact fills the person giving an order with solicitude, and it is readily conceivable that the art of commanding is an affair

of character rather than of intelligence. Moreover, whenever affairs take a serious turn, we may expect a lack of orders, rather than a superfluity. Any redundancy in the matter of orders is usually only of a negative character. Where the possibility of failure is felt, an order is often sent which, though not likely to stem the tide, still is meant to show that the sender had not been unaware of the danger. Frequently there is also present a lurking wish not to have to bear the fault oneself, but to adroitly slip it upon some other shoulders, just as in certain games at cards a player delights in palming off a bad card on his neighbour before the last trick is played.

Finally, all orders in war rest upon a very insecure foundation. They are based upon supposed knowledge of the enemy, which, however, is never quite complete. Thus we are stultified in the observance of our second rule, which is, not to command the impossible.

If these facts found proper consideration; if every one would only command that for which he is ready to undertake the whole responsibility; if purely negative orders were never given, and if no one ordered more than, from his personal knowledge, could be carried out with certainty, much would be gained.

The next consideration is to decide how far, in issuing orders, it is permissible to enter into details. A number of considerations here confront us; the whole constitution of the army must be considered. We Germans were often unable to suppress a smile when the "instructions" issued by the French leaders to their armies, and especially those of the Republic of September, fell into our hands. The well-known book of Chanzy, "La deuxième armée de la Loire," contains a considerable number of them. In chatty style we are told of events in this fashion: "The enemy endeavoured to-day to force us from our position; he attacked us successively at St. Laurent des Bois, in front of Poisey, in the direction of Cravant, and in front of Villorceau. According to information given by prisoners, the whole army of the enemy was engaged, together with a numerous artillery. We have nevertheless resisted this attack with much energy and in good order, and have remained masters of our position, after causing the enemy considerable loss. Every one should be inspired by this new success, and should take fresh hope;

for we must keep our positions and offer renewed resistance if the Germans should make a fresh attack on the morrow."

Such narratives, and others of even greater length, form the introduction to orders covering three or four pages of print, and containing numberless details. This would, in our case, be quite inconceivable ; and yet these orders were issued by one of the most capable of the French generals of that period, who was, moreover, assisted by an excellent chief of staff.

The reasons for this arose from the exceptional constitution of the army, in which much that with us would be a matter of course, with them was not so, and had therefore to be embodied in orders. Many generals and officers were new to their duties, many men of note in the hastily improvised army had drawn their swords for the first time, in order to assist in the defence of their sorely stricken fatherland. Initiative, experience, and forethought were wanting. The commander in the field had not simply to issue his orders, he had at the same time to teach and explain in the clearest possible manner what was expected of each individual concerned, regardless of the consequent length of his "instructions."

Given, however, a system like our own, it may be practicable to formulate a few general principles, one of them being that a superior should never prescribe from a distance what a subordinate on the spot is in a better position to determine for himself. In that way orders are simplified, while the subordinate enjoys the necessary scope for the exercise of his discretion.

The most important and best orders ever given in our time were always brief and simple.

We may quote, as an example, Moltke's famous telegram, of June 22, 1866, to the First and Second Armies at Görlitz and Neisse :

"His Majesty commands that both armies shall advance into Bohemia, and endeavour to concentrate in the direction of Gitschin."

When later, on July 2, the Austrian army was discovered behind the Bistritz, and a decisive battle for the First Prussian Army under Prince Frederick Charles seemed imminent for July 3, the Crown Prince, who commanded the Second Army, was summoned to the spot by the simple words :

"Your Royal Highness will at once make the necessary arrangements to advance with your whole force to the support of the First Army against the right flank of the expected advance of the enemy, and will attack as early as possible."

This led to the victory of Königgrätz, which was decisive of Germany's internal constitution.

Again, could anything be more concise than the following ? :

"From information received it may be inferred that the enemy intends to make a stand on the plateau between Le Point-du-Jour and Montigny-la-Grange.*

"Four of the enemy's battalions have occupied the Bois des Génivaux. His Majesty is of opinion that it will be advisable to direct the 12th and the Guards Corps upon Batilly, so that, if the enemy marches on Briey, he may be met at Sainte-Marie-aux-Chênes, or, if he remains posted on the height, be attacked from the direction of Amanvillers.

"The attack would have to be made simultaneously, by the First Army from Bois-de-Vaux and Gravelotte ; by the 9th Army Corps against the Bois des Génivaux and Verneville, and by the left flank of the Second Army from the north."

Thus ran the decisive orders for the attack issued before the battle of Gravelotte and St. Privat, an attack for which 200,000 men were set in motion. There is no mention here as to how the troops are to form up, what measures of precaution they are to take, how they are to render mutual support, how to maintain communication, etc. All this is left to the discretion of the commanders-in-chief of armies and to generals commanding army corps.

How far details may be gone into will depend upon the position of the person commanding. The commander-in-chief at the head of great armies, composed of independent corps commanded by generals of high rank, will often have to confine himself to an expression of his wishes and intentions, leaving it to them to contribute to their realisation according to the extent of their means. Thus, in the first three of the orders quoted little more is expressed than the views and general intention of the king. Yet a uniformly similar procedure would not always be safe. The commander-in-chief must keep a portion of his army tightly in his own hand,

* Any sketch map of the vicinity of Metz will explain the examples now quoted.

and under his own eyes, in order to have a force at his immediate disposal whenever unexpected events should render his personal intervention necessary. The corps at his command in such moments acts like the rudder of a ship, which would otherwise be unmanageable.

During the war of 1870–71, a system of command was gradually evolved, which proved its excellence under all circumstances, and which may, for the present, be taken for a model. During the first days of the war, the great head-quarters conducted operations by means of short telegrams, the same as four years previously. The work of the General Staff upon the war, however, hints that this procedure was not generally of a satisfactory nature.

Very soon, when all danger of the plan of the German operations being deranged, and of one of the armies being isolated and attacked by the enemy with superior force, was past, and greater freedom of action had been gained, the place of short directions, which indicated only the next steps proposed to be taken, was given to so-called letters of guidance (*Direktiven*). The name thus casually adopted is not pretty—a purely German word would have sounded better —the principle, however, is excellent. According to the definition of the work of the General Staff, letters of guidance are "communications from a higher authority to a subordinate commander, intended less to convey definite orders as to his immediate action, than to indicate leading features for general guidance. The latter should then facilitate judgment in subsequent decisions to be taken independently." Such communications, which, while allowing great latitude, ensure effective co-operation of all the forces, are singularly opportune in these modern times, when, owing to the size of armies, single objects are striven for with divided forces. They are doubly practicable for the purposes of the great general head-quarters, which are usually at some distance from the main army, and can only exercise control in a general way.

An individual commander of an army will but rarely be in a position to employ letters of guidance, that being only in the case of one of his army corps being in a detached position, charged with some special mission, when it may be assumed that the commander will find it necessary to take independent action without previous reference to the supreme authorities.

Such a contingency may arise where a corps is to secure the flank of an army advancing to the attack, when in pursuit of defeated hostile bodies, when separated from the main army by rivers or hills, etc.

Letters of guidance will frequently have to deal with alternative contingencies, though, generally speaking, anything likely to create doubt is a serious fault. It is certainly rather precarious to base orders upon such a shifting foundation, as the enemy may act in a manner not provided for, and that will most certainly create perplexity in earnest.

The old notion of "disposition" has now disappeared. It implied, to a certain extent, the idea of a fixed programme of operations, based upon certain suppositions, and went further than a mere order.

Now, besides letters of guidance, we only know army orders, corps orders, division orders, etc. The difference between these latter and the former is, that these do not give general ideas, but prescribe definite measures, marches in a given direction, attacks, etc. Another characteristic feature of them is that they do not, as a rule, provide for various contingencies, but only for the situation *which the commander regards as being most probable at the moment.* As has been already mentioned, they should stop short where doubts begin and future events cannot be anticipated. Exceptions will occur, because a strict dividing line between orders and letters of guidance cannot always be drawn, but they are rare.

Again, we read in the Field Service Regulations :—"Letters of guidance must lay stress on the object to be attained, but leave open the means to be employed."

In this case of orders, too, although they are clothed in more precise terms than letters of guidance, no rules can be prescribed, yet certain points may be laid down which must never be omitted in their compilation.

To begin with, every order in war, as already stated, is based upon a definite assumption as to the situation of the enemy. Though each one be issued in good faith, it must not be regarded as an article of war, every departure from which entails punishment, since it loses its validity so soon as it becomes apparent that the supposition on which it was based is erroneous.

Every order, accordingly, begins with information of the enemy.

Here, precaution is imperative; it will, as a rule, be advisable to mention the source of the intelligence, especially when there are inward doubts as to its credibility. Supposing the orders from above run simply: "Information of the enemy says, so and so, etc.," the contents of this order will be immediately regarded by the recipients as something absolutely correct, and may lead to illusions. If the source is mentioned, as "Information given by peasants, by spies, the reports of patrols, etc., say so and so," every commander is in a position to appreciate the degree of credibility, with the result of either exciting suspicion and caution, or of confirming his confidence.

It is also of importance to distinguish clearly actual information received from particulars based on assumptions.

The second paragraph of every order ought to contain the intentions of the commander in general outline. Since they are the immediate result of information regarding the enemy, they follow the latter in natural sequence.

That the commander-in-chief, or troop leader generally, should lay down his intentions clearly and plainly, appears a matter of course, and it would seem, accordingly, superfluous to say more upon the subject; but even on this point experience teaches us differently.

In the first place, it is often difficult to formulate one's own intentions for even a few hours in advance. Situations in war are so uncertain, that in early morning we cannot possibly foresee what we shall want to do about nine or ten o'clock in the forenoon. Out of consideration for the troops, the orders for the next day must, as a rule, be issued towards evening, and the night may bring forth many changes in the situation. Very frequently nothing more will be possible than to appoint the places where the troops are to form up on the following morning in readiness for subsequent operations. But this must be definitely stated in order that the subordinate commanders may know that everything else is still uncertain, and that they must not, therefore, commit themselves by premature contact with the enemy.

The general intentions of the commander-in-chief ought not, as a rule, to be unknown to any of his generals likely to be called upon to undertake independent action. We have seen instances in 1870 of commanders of brigades and divisions, by their own independent action, bringing on battles

contrary to the intention of the commander-in-chief, thus actually determining, on their own responsibility, the fate of the whole army; *and such events will always happen so long as the troops are animated by love of action, and so long as initiative remains the property of their commanders. They are bound to occur whenever large forces co-operate, if the best opportunities are not to be wasted.* Hence it is all the more necessary that subordinate commanders should be initiated into the general intentions of the commander-in-chief. Secrecy will only be endangered in very rare cases, as, in the first place, communication is restricted to a comparatively small number of officers of high standing, and, again, in the moment when the orders are issued to carry out an operation, this latter is usually so imminent, that, even if information reached the enemy, it would be received too late to be of any value to him.

Though the time before the beginning of decisive movements preceding a battle is often very short, there will always be a few spare minutes in which to express the intention of the commander-in-chief in a sentence or two with clearness and precision.

As on August 18, 1870, the one leading idea was not to seriously attack the enemy's naturally strong front until his right had been turned, it would certainly have been of advantage to have had this repeated in all orders, even though it might be assumed that this was generally understood. As a fact, the attacks made on his front soon became much more serious than was originally intended. This would have been obviated if, immediately following the statement as to the enemy's position, it had been indicated how, in the opinion of the head-quarter staff, the attack should be carried out. The intention of the commander-in-chief is the only guide regarding the conduct of subordinate commanders, if an order cannot be carried out in the way intended. It must therefore be made known to them with unmistakable clearness.

The paragraph expressing the intention will naturally be followed by necessary complementary instructions. Their nature is entirely dependent upon the circumstances of the moment. We shall discuss them in the following chapters in detail.

As a general rule, an exact consideration of time and space is the chief essential. Mistakes in this respect appear un-

pardonable, though they are often made even by great generals. One acquainted with war will not find anything strange in this. A measure is discussed upon the battle-field, and the orders are being sketched out. New information is then received, when it has to be considered whether the original intention is still practicable. Subordinate commanders arrive; and the commander-in-chief must speak to them. Urgent affairs claim his attention throughout. A great cavalry attack in course of execution demands his attention; an offensive movement on the part of the enemy keeps his nerves in a state of high tension. Troops march by and salute their esteemed leader with hurrahs. A few words of encouragement and thanks are indispensable. Then a gallop to another part of the field to watch the end of the battle. Finally, when the last shots have been fired, the thought occurs of an order yet to be despatched. His signature is quickly affixed, and an orderly officer sent off with it. He has failed to notice that meanwhile hours have passed by, and that the details as to time should have been altered, and that consequently the troops ordered up cannot now arrive so soon as ordered. Possibly, too, reliance is placed upon a correct appreciation by the recipients, and it is expected that they will make the necessary modifications. But the mistake has been committed, and cannot be rectified. He who bears in mind the state of turmoil in which orders are often written, will be able to excuse the fault; but, nevertheless, such occurrences undermine confidence, especially when they are frequent, and the error is only too apparent.

As to the order in which the instructions ought to follow each other, something may be said next. The sequence will principally depend upon the relative importance of the several measures necessary. That first mentioned impresses itself most deeply upon the memory, hence the most important matter claims first place, unless it be necessary to commence with a few introductory explanations. Measures of secondary importance, which have for their object only to help generally to ensure the success of the principal undertaking, come last in order.

If a normal sequence, as indicated, is impracticable, it will be best to begin with the troops intended to move first and farthest to the front, for instance with the large body of cavalry moving far in advance of the army. Whilst in reading

the orders we grasp their scope by reference to the map in our hand, we gain at the same time familiarity with the position of places, roads, etc., which will recur in subsequent paragraphs, and we shall readily recognise them when they are met with. Thus we quickly gain a clear view of the whole.

Dispositions regarding the cavalry being settled, instructions for the advance guard, the main bodies, the flank detachments, and special details would be the next consideration.

In this way a sequence is attained in general correspondence with the order in which executive action is required, and such arrangement cannot fail to be of advantage in respect of clearness and general lucidity.

No one, except in orders for a retreat, would place the instructions for the trains and supply and other columns before those for the troops, or intermingle the two. The former must be placed at the end.

We must, moreover, consider that orders in the field have very frequently to be not merely written, but also read and weighed, under very trying circumstances. If, in military history, we meet with admissions that something had escaped notice here, and something had been forgotten there, we are prone to pass severe judgment, and to exclaim, "How was it possible?" We do not, as a rule, bear in mind the fact that the general, be he ever so conscious of his responsibilities, cannot be perpetually awake, fresh and active, and that weariness overcomes him, as it does every other mortal. Perhaps a conference, the issue of instructions, and the arrival of information and reports have kept him awake until late in the night, and possibly, too, after a day passed in the saddle in winter's cold and snow; and he may be just about to lay himself down to snatch a little rest in the poorest of quarters, when an orderly officer arrives with orders from a superior authority, waking him from tardy sleep to renewed activity. He must at once read, decide, resolve, and send further orders to his subordinates. It frequently happens that an interruption of this kind is caused without good reason. It is hard to renounce the rest which every limb so urgently demands. The despatch—probably written in great haste—must be deciphered in an indifferent light, by the flickering flame of a fire in the grate, or by the bivouac fire in the open; maps are produced, and often it is difficult to improvise a

table upon which to spread them. The greater, under such conditions, the length of an order, the more names it mentions, the more subtilties it contains, the more essentials are interspersed with unimportant details, the greater will be the chances of mistakes, misunderstandings, failure to distinguish the essence from the non-essential, and of similar errors occurring. Again, let us reflect that, at least in our army, all men of high rank are of an age when both intellectual and physical powers are on the wane. Napoleon, when only forty-one years of age, complained that he lacked his former vigour. "The smallest ride is a labour to me," he wrote. Frederick the Great, when at the age of forty-eight years, poured out his heart to his friend D'Argens: "I have to perform the labours of a Hercules at an age when strength forsakes me, debility increases, in one word when hope, the comforter of the distressed, begins to fail me." Most of our battalion and regimental commanders are of that age, and still far removed from positions of really high importance. This condition is difficult of amelioration so long as we wish to maintain for our corps of officers the salutary uniform rule, according to which the prospect of advancement to the highest positions is open to all, while promotion generally goes by seniority. Extensive retirement in the higher commands may cause a periodical reduction of age among the officers, but reasons of national economy will impose strict limitations and forbid certain bounds to be exceeded. We must certainly, for a long time to come, be prepared to see men of considerable age occupying the highest positions, though there may be a few exceptions. In the case of sexagenarians, however, the mind can scarcely work with unimpaired rapidity or memory retain its old vigour.

That factor must, hence, also be taken into account in the process of drafting orders. The latter must be easily understood and, in their main points, be readily retained in memory; which primarily demands that all extraneous detail be excluded from orders relating to movement and battle. Instructions regarding the train, the various columns, and vehicular traffic generally, cannot, it is true, be entirely omitted, since the troops must know where to find food, ammunition, hospitals, etc., but it will, in most cases, be sufficient to indicate their location. The manifold small details still necessary in this respect are best embodied in a

special supplementary order. Matters of supreme importance concerning the movements of the troops, and points which must be constantly under the commander's eye with absolute clearness, being thus divested of all accessory detail, the main thing will stand out with greater prominence. When, for instance, General Chanzy, in his instructions of January 8, gave a long list of appointments and promotion of officers and surgeons, we are more inclined to find fault than with his going, in the first part of his orders (which should deal with information regarding the enemy and the dispositions of his own army) too deeply into details, and his assuming a pedantic tone. These personal notices were followed by instructions as to the occupation of the issues of the forest of Marchenois, that is, a part of the order for operations, and the order closed with a reminder to the commanding generals to send frequent reports. It is evident how easily this latter might have been overlooked.

A mention which should never be omitted is as to where the officer issuing the order will be found, in order that reports and questions may reach him without fail.*

We must still devote a few words to the influence of distance upon the exercise of command, because it also makes itself felt in the appreciation of military situations.

The immediate impression has always the strongest effect, and it is but natural to pay less attention to a distant danger than to one nearer at hand. This explains why in war each one believes that where he is fighting the fray is the hottest, and that the situation in his zone of operations is the most difficult. On the one hand, we may thus be led to demand

* The use of maps in drafting orders is not without its importance. A concise style we take for granted. But it ought also to be announced in every army, according to which of the different maps available, the orders have been framed. Not only does each particular map represent topographical features slightly different, but the type used for the names of the places often varies. What one map brings into prominence in large letters, another map shows in small and scarcely readable characters. If, now, different maps are used by the commander, and by the recipients of his orders, great loss of time may easily be caused by searching. The author, who, during the war of 1870–71, belonged to a head-quarter staff, remembers the whole of one night being spent in trying to find the name of a farm, mentioned in a report. It was only when by chance another map was taken up, that it was discovered ; for, on the latter, which had probably been used in drawing up the report, the name was given in large type.

more of others than of ourselves, because we perceive plainly enough the task that our neighbour ought to fulfil, but not the impediments in his way. On the other hand, it is of advantage under certain circumstances not to be obliged to think and to act under the immediate impression of danger and difficulty.

Experience proves that boldness of decision increases in proportion to distance. We survey with a calmer view a more extensive area of the field of operations, and perceive more clearly the secondary importance of a matter which appears to those on the spot of the utmost moment, because they are immediately affected by it, and we enjoy greater facility of devising means of compensating, by successes on one part of the field, a possible disaster on another.

Beyond doubt, the supreme commander is very much benefited by being at a certain distance from the field of action of the several armies. He must be, in every emergency, the centre of energy; must always be ready, whenever a subordinate general hesitates, to assume responsibility, and to weigh with full objectivity the relative importance of all operations. He ought, therefore, to be outside the pale of influence of the tumult, the disquietude and the anxiety incidental to the daily life of troops standing closely confronting the foe. Serene calmness ought to prevail in the atmosphere surrounding him, and only in some few critical moments ought he to descend into the excited arena of battle and make his disposition under its direct influence. If this occurs too frequently, the grasp of the situation as a whole will be lost, and the spectacle of the misery of war will gradually react prejudicially upon the flow of ideas.

It was striking how, in the winter campaign of 1870–71, the dangers which threatened the German troops in the provinces were always more lightly regarded in the great general head-quarters than in the head-quarters of the armies concerned, who were engaged in protecting the forces besieging Paris against attempts to relieve it. The strength of the army of General d'Aurelles de Paladines in process of formation on the Loire, and round which the hopes of France were centred, was at first greatly under-estimated. It was only after the battle of Coulmiers that it was called "entitled to respect," and it was admitted that it might possibly number from sixty or seventy thousand men upwards. Up to that

time its destruction was regarded as a comparatively easy task.

Within the forces marching against it, too, doubts increased in proportion as the intervening distance decreased. Whilst, at first, an easy victory over such loosely organised troops was anticipated, and the scene of the decisive strokes was laid in Bourges and Tours, as time went on, information, views, and decisions were modified; difficulties became more apparent; the great numbers of the enemy were realised more clearly, and found more anxious consideration. Doubts arose as to the practicability of the designs formed. Side by side with plans of attack, proposals for defensive operations were made, and the closing scene was laid closer home, on the Loire, not beyond it.

There was, as a matter of fact, good reason for precaution. Although the troops opposed to us were in no sense as good as those of the fallen Empire, yet the campaign proved, in December and January, much more serious than had been anticipated. In other parts of the theatre of war similar events occurred.

Happily, however, an equilibrium established itself. Whilst the justifiable caution of the armies entrusted with this task diminished the possibility of disaster, the more exacting wishes of the supreme command spurred them on to activity in a degree not to be under-estimated.

Now it might be said that the most original and boldest plans should logically originate round the green table at home, where the direct influence of danger is completely excluded, and where the repose necessary for thought and work is greatest; that the presence of the commander-in-chief only appeared necessary at the time of decisive battles, and that then the senior general might reasonably be entrusted with the command. The telegraph, in the year 1870–71, could have conveyed orders from Berlin to Vesoul and Amiens quite as well and practically quite as quickly as from Versailles. Thus, under present conditions, an army might again be directed as in the eighteenth century by the Aulic Council of Vienna.*

* We confine ourselves here, by way of historical example, to the popular idea of the functions of the Aulic Council. It has lately been questioned in Austria as to whether this authority, at least in the Seven Years' War, had any influence whatever upon operations; it is

We have experienced an actual instance in the similar procedure of the French Ministry of War. The latter drew up at the green table in Tours and Bordeaux plans of campaign, and sent them to the generals, without, for the most part, being in touch with the armies otherwise than by means of the telegraph wires. The delusion that it was possible to guide the fate of battles from the quiet of the study led, however, only to defeat. The designs of Gambetta and de Freycinet suffered throughout from a want of harmony between the wish and the power, between ends and means. In all these plans a just appreciation of the capacity of the young Republican troops was lacking.

If, accordingly, the supreme command of the army does well, as a general rule, to keep itself at some distance from the scene of actual combat, yet this distance must not be so great that intimate touch is entirely suspended. The general in command must always be in a position to feel the pulse of his army. Only so much of its inner emotions should ever reach him that, whilst not being unduly affected by passing impressions, he is able to form a fairly exact estimate of what he may demand at any given moment. The presence of the great general head-quarters in the theatre of war tends to retain their plans upon the basis of reality.

It certainly is also appropriate that the supreme heads of an army should, on marches and in overcrowded quarters, get a slight taste of those hardships of war which the troops drain to the dregs. That will guard them against giving orders impossible of execution, and will often reduce to due proportions the importance of obstacles which look greater when viewed from afar than when seen at close quarters.

The same conditions apply equally to the battle itself as to great strategical operations. Commanders of high rank are rightly warned against approaching the fighting line too closely, though in this case, too, the proper mean of distance from personal danger must be struck.

Clausewitz has left us, in the second volume of his work upon war, an excellent sketch of the nature of the different zones adjoining the focus of action, which runs as follows: "If we accompany a novice to the battle-field, as we approach

said to have been merely an administrative body.—*Cf.* "Mittheilungen des K. K. Kriegs-Archivs," May number, 1879, of the Austrian *Military Journal* (Streffleur), p. 8 *et seq.*

it, the ever louder roar of the artillery alternates with the whistling of the bullets, and attracts the attention of the inexperienced. The balls begin to strike before and behind us. We hurry to the hill upon which the commanding general, with his numerous staff, is posted. Here the falling of projectiles and the bursting of shells is so frequent that the serious side of life strikes the youthful imagination. All at once a friend falls—a shell bursts amidst a knot of men, and produces involuntary movement. We begin to feel that we are no longer perfectly calm and collected; even the bravest amongst us becomes somewhat perturbed. Now let us step into the battle which rages before us, almost like a play, and go to the nearest general of division. Here ball follows ball, and the noise of our own artillery increases the confusion. From the general of division we proceed to the general commanding a brigade. He, a man of well-known courage, keeps carefully behind a hill, a house, or trees, a certain sign of increasing danger. The shrapnels rattle in roofs and fields, cannon-balls whiz in all directions past us and over us, and the whistling of rifle bullets becomes more frequent. Another step brings us to the troops, to the infantry, that has endured a hot fire of hours' duration with indescribable steadfastness. Here the air is teeming with hissing bullets, which announce their presence by the short sharp sound with which they fly within an inch of ear, head, and the heart, which beats with unbounded compassion at the sight of the wounded and fallen."

This sketch is true even in our own days; only that, in consequence of the greater range of modern fire-arms, the zones are considerably expanded. The increased effect of fire has also intensified the impressions produced. The thickest rain of bullets of olden times cannot for one moment compare with the mighty cone of bullets of our modern magazine rifles.

There are, as we have already stated, only very few men upon whom danger makes no impression. Clausewitz thinks that the novice would not enter any one of the zones of varying density of fire without feeling that the light of thought was here set in motion by other means, and was broken into other rays, than is the case in a state of mere speculative activity. Although the sense of danger may gradually become blunted, yet some particle of it still re-

mains, even with the most seasoned soldier. The deeper he plunges into the fight, the more rapidly his pulse will beat, the more swiftly, though less clearly, will he think, and the more will his equanimity be disturbed by sensations centring in his own person and in the possibly impending end of life.

The more, therefore, that clear-sightedness and intelligent direction in the development of a battle is demanded of a general, the greater the reason that he should keep out of serious danger. The best post for a commander-in-chief is one from which he has a clear view of the lines of advance of his columns, as well as of the enemy's line of battle. Such places are usually found only at a considerable distance completely beyond the range of fire; but it would be an entirely false sense of honour to reject them on that account. By displaying his contempt of death, a commander-in-chief can scarcely effect more than any subordinate officer; but by clearness and cool deliberation in his plans, he will, on the other hand, become the benefactor of hundreds of thousands.

During the battle of Noisseville, on August 31 and September 1, 1870, the head-quarters of the besieging army around Metz were stationed upon the Horimont, a precipitous spur on the left bank of the Moselle, about nine miles as the crow flies, and fourteen by road, from the field of battle. Originally it was only intended to take a general view from that point by means of the excellent telescope of the post of observation. But it was quickly perceived that no other position was so well suited for the commander-in-chief during the battle now beginning, and he remained there with his staff, whilst single officers were sent down to the battle-field as required.

Like a panorama, the whole country about Metz lay at the foot of the Horimont, with the clustering houses of the city and its suburbs, the fortifications, and the French encampments. All the movements of the enemy across the valley, the march into position of the besieged French army, its deployment, and its advance to the attack could be seen clearly. In the same way the progress of the German columns advancing to the field of battle could also be followed, and a singularly clear view of the position of both sides, like that of an umpire at a war game, was thus gained. It was not only possible to follow every phase of the battle,

but counter-measures, suggested by the action of the enemy, could be concerted beforehand.

This battle, therefore, supplies an excellent example of successful co-operation between the supreme authority and the general commanding on the battle-field.

Prince Frederick Charles, the commander-in-chief, intended to leave General von Manteuffel, who directed the fighting forces at Noisseville, the undivided honour of the victory; but even apart from this personal reason, his stay upon the Horimont would have been perfectly correct. In leaving that elevated point of observation, the commander-in-chief would not only have sacrificed his commanding view—and at the same time its telegraphic communication—but during the ride of several miles his activity would have been suspended.

A change of station during a battle is of itself productive of great inconvenience. It results in reports going astray; subordinate commanders looking for the commander-in-chief fail to find him, or only meet him when it is too late. A point from which all the lines of advance and all parts of the battle-field can be surveyed simultaneously, is for the supreme commander of such great value, and is so seldom met with, that it should not be relinquished without the most urgent reasons, even though, owing to the great distance, some details may recede from view. If the course of events changes, and the crisis occurs elsewhere than was expected, the first position certainly loses, for the most part, its importance, and a timely change must be made. For instance, in the battle before Metz on August 31 and September 1, this would have been the case if the struggle had swayed away from the fortifications, and the attempt of Marshal Bazaine to cut his way through had succeeded. Prince Frederick Charles would not then have hesitated to proceed to the new scene of action.*

* The signal for this would probably have been the silence of the French fortress batteries. From the fact that the forts on the east side of Metz were unceasingly engaged in the struggle, it was possible, from the Horimont, to perceive that the scene of the battle was not shifting, but was still surging within its original lines. By the lines of smoke, which were plainly visible, its extent towards the flanks could be exactly judged; but advances or retirements could not be distinguished, because, from the position of the German commander-in-chief, the French, fighting on the other side of the valley, were in open view, while the German lines were visible only over their heads.

Narrower conditions alter the reasons governing the choice of position. The general in command of an army corps will only act in the same manner as the commander-in-chief when finding himself in a similar position—that is, when acting independently with his army corps. If, however, this latter merely forms a link of the line of battle, more prompt intervention and, accordingly, a closer view becomes essential.

Descending the scale to the grades of generals commanding divisions and brigades and commanders of regiments, the necessity of remaining close to the fighting area and within the danger zone increases. This is explained by the fact that, as a very wide field of view is now of less importance, facility for decided intervention, on the spur of the moment, is the more urgently demanded. The direct influence of visual impressions becomes even a fruitful source of activity. The subaltern officer, finally, dashes into the fire ahead of his men, carrying them with him by the force of example.

As is always the case in war, circumstances here also decide. But we must, at all events, grasp the fact that the judicious choice of a place of observation is a very material factor in the successful handling of troops, and that it would be a mistake to under-estimate the importance of this, apparently purely extrinsic, point.

Owing to the extreme importance of good leadership in the field, we must not omit to point out a dangerous tendency inherent in habits fostered in time of peace. Although lengthy orders are issued during our autumn manœuvres, individual orders convey little but hackneyed phrase, and that little refers to questions of administration and supply, rather than to the impending field operations; the real intention of the directing staff frequently remains hidden. The phrase "facing the enemy" has become quite a household word, leaving it open to question whether an offensive or defensive attitude be intended, though certainly also leaving an opening for escape from responsibility for blunders and from adverse criticism. From the point of view of the troops, however, want of appreciation of the situation is apt to ensue, thus creating what would be a serious danger in real war. But in peace manœuvres help is ready to hand. Reports arrive promptly and in large numbers, besides being more reliable than could be expected in war. Where doubts remain, the commander-in-chief and his staff are wont to

approach very near to the opponent's position for a close personal reconnaissance, whereupon orders are issued with deliberate care. Such methods, however, are bound to fail utterly in actual war. Information there becomes scanty, and the necessity arises, not only of arriving at comparatively far-reaching decisions, but of also communicating them to the troops, in order that the latter may not remain in a state of suspense. The close approach to the position of a real enemy is, moreover, quite out of question. Head and heart flounder in a more difficult element, and that requires practice. Hence it should be insisted upon, even in time of peace, that the initial decisive plans be formed in the semi-darkness of a still obscure situation, and that ample orders be actually issued.

CHAPTER III

THE CONDITIONS OF SUCCESS IN WAR

WE should do the best service to the cause of leadership could we but enumerate all the conditions of success in war ; but as, unfortunately, we should never reach the end, let us be content to point out a few of the most important. Among them may be mentioned first one which, as a rule, appeals but little to soldiers, that is politics.

War is the continuation of policy with weapons in hand ; hence the influence of policy upon the conduct of war. If this influence be open to criticism, it were more correct to blame the policy itself. A bad policy will naturally have a pernicious effect upon war. We must guard against a conception of policy in the narrow sense of the term, thinking only of what we commonly call external politics ; internal politics being equally material. We will, accordingly, take the word " policy " in its widest meaning. Upon policy the whole general condition, the temper, the constitution, the moral and physical vigour of a State depend ; and upon these elements, again, the manner of making war.

Clausewitz has most aptly explained the relations between policy and war. In these days the aspect has changed somewhat in several directions. War has not freed itself from the sway of politics, though the influence of the latter is modified in comparison with former times. Clausewitz yet talks of wars, such as the Wars of the Coalition, or the War of the Austrian Succession, where allied Powers bound themselves to mutual support with a specified number of combatants, where operations were undertaken with a part and not with the whole of the forces, and the political element stood decidedly in the foreground ; but all that is a thing of the past, such conditions are scarcely conceivable in our modern Europe. Even Russia's attempt in 1877 to crush its much weaker opponent, Turkey, with *a portion* of its forces,

failed completely. Campaigns like the German-Danish campaign of 1864, or that of the English in Egypt, in which an expeditionary corps was sufficient to bring a weak but defiant enemy to reason, we regard as mere military executions. Even the war of the United States against Spain in 1898 bore this character. The Græco-Turkish war was also an exceptional one owing to the peculiar nature of the theatre of war and of the constitution of the contending forces. Such campaigns are not the proper field for our present investigations. The principles of modern war must be exemplified by great national wars. If two European Powers of the first order collide, their whole organised forces will be at once set in motion to decide the quarrel. All political considerations, bred of the half-heartedness of wars of alliance, fall to the ground.

The causes of wars are of a political nature. We have already seen that wars are now only possible for the protection of great political interests. These interests sometimes certainly do assume a singular garb. A breach between nations is apparently due to a mere nothing. In 1867 the world might easily have witnessed the drama of a bloody struggle on a question of quite secondary importance. The candidature of a Hohenzollern prince to the throne in Madrid was no sufficient reason for a mortal combat between two nations like the German and the French. In all such cases, however, the true fact is that the apparent motive is really only a pretext for the political antagonism which has arisen from protracted friction.

We approach, in a certain sense, an original state of nature when wars between neighbouring nations were the result of pure enmity; but the difference now is that the enmity is not a purely instinctive one, but springs from the clashing of ideal interests, among which power and prestige figure very prominently. Both are political forces.

Politics, again, determine the way in which war is begun. Policy, furthermore, regulates the relations not merely between the States immediately concerned, but also with those indirectly interested in the final issue. Their sympathy or ill-will may count for much, in either impeding or in promoting the action of a belligerent. Politics, again, as a rule, determine the moment for the outbreak of hostilities, upon the happy choice of which so much depends. They, in

short, create the *general situation, in which the State enters into the struggle*, and this will be of material influence upon the determination of the commander-in-chief, and even upon the general spirit of the army.

In view of the swift march of modern military operations, politics will retire more and more into the background after the first roar of the cannon. In the wars of the previous century the Powers, even after open hostilities had already commenced, almost invariably kept part of their armed forces in hand for other possible complications, and politics decided whether the stake should be increased or not.* Now all is staked on the first throw, and the lot of war falls as destiny wills.

Politics regain their influence only when it is felt that, in the case of one of the belligerents, the necessity of peace begins to slacken the ardour for a continuance of the struggle, and that all hope of the success of his arms is fading away. It will then be the business of the politician to prepare the basis of an understanding respecting the end of the struggle. The influence of third Powers, too, is occasionally invoked. They frequently determine how far the victor may proceed in his demands, and to what extent the vanquished must give way.

In the last stages of a war, when the decision by arms is no longer doubtful, the military element naturally recedes more and more before the political, and considerations of policy may even directly influence the decisions of the commander-in-chief. Political considerations may, under certain circumstances, bring about a final battle which, although no longer necessary from a purely military point of view, will be regarded on the one side as a last attempt, and on the other as a decisive means of coercion. One of the belligerents may not require this final decision in its own interest. A weak Government requires it in order to bring home to its own people the necessity for peace, even when it had no longer hopes of victory.

War is always the servant of policy. War waged merely for the sake of extermination and destruction is now quite inconceivable. An object of permanent value to the State,

* Diplomatic intercourse between belligerents even still continued; for example, the English Minister in St. Petersburg was not recalled during the whole of the Seven Years' War.

be it only a question of ascendancy, must exist ; and this can only arise from political considerations.

The object itself of a war is of such importance and will so powerfully stimulate the exertions of nations for its attainment, that, almost on that account alone, we are tempted to place policy first among conditions of success. Now, as we have seen, there are many attendant motives, and thus we may unhesitatingly lay down the maxim that *without a sound policy success in war is improbable.*

War will, on that account, be in no way lowered in importance, nor restricted in its independence, if only the commander-in-chief and the leading statesmen are agreed that, under all circumstances, war serves the end of politics *best by a complete defeat of the enemy.* How closely politics and war ought to co-operate is manifest. This leads us back to the conviction already expressed that a State is most happily situated when commander-in-chief and statesmen are combined in the person of a great king.

We have already said that every good military organisation has a definite national character, which will also be reflected in the action of the general and of his troops. A writer upon strategy and tactics ought to treat his subjects as *national* strategy and tactics ; for only such teaching can be of real service to his country.

As an individual, as a rule, only shows his true worth when placed in the right position, so also must armies be in their proper element in order to show themselves in the best light. The Prussian Grenadiers, who without dismay would advance in parade-step up to the enemy's batteries, at Jena lost their presence of mind completely when confronted by French sharpshooters, whose fire they could not resist. Napoleon's armies, which marched victorious through the heart of Europe, could not suppress the Spanish insurrection. Our infantry, which, in 1870, advanced victoriously through the rain of bullets of the French skirmishers and performed the most difficult feats of modern times, would, if transferred to the theatre of war in Acheen, Ashantee, or Zululand, most probably require, at first, some experience in order to become master of the situation.

Our modern German fighting method aims at bringing on decisive results by a succession of vigorous blows in accordance with our conception of resolute offensive. An

idea of the offensive is tacitly at the bottom of all our theoretical treatises, and, for the most part, of practical exercises also. Temporising, waiting, and a passive defensive, are very unsympathetic to our nature. Our corps of officers are trained to spontaneous activity, to take the initiative, and to aim at positive successes. Everything with us is action, and our strength lies in great decisive strokes upon the battle-field. In the year 1870 all the conditions precedent to such a mode of operation were combined in the nature of the country, as well as in the constitution of our own forces and those of the enemy, and hence our brilliant successes.

An important condition for the happy issue of a war is a good *internal disposition* of the army. Every regiment brings into the field with it a certain character of its own. There may be, however, gross exceptions from the general rule, and sudden manifestations difficult to explain. Discipline does not exercise an absolute control over internal emotions, over effects of panic, disaster, or casual unfavourable conditions. We can no more strike the word "panic" out of the military dictionary, than the terms "heroism" or "contempt of death."

The will to conquer is, in the case of the commander-in-chief, as also in that of his troops, of paramount importance. Victory and defeat are not separated so widely from each other as success or failure in an examination. The line between the two is very variable. Troops determined, like those of the Second Army at Vionville, on August 16, 1870, not to yield ground, are in the end regarded as victorious, even though the greater material losses are on their side. This obstinate will to remain victorious speaks most strongly of the spirit animating an army. The previous impressions of life in peace and war here co-operate to produce a great moral effort. The pride and the self-consciousness of the army, founded upon good traditions and successful generalship, secure success even under the most trying circumstances.

Besides these moral factors, we must also consider certain material ones. One of the most important of these material conditions is undoubtedly a sufficient *number of effective fighting men*. Numerical superiority confers, at all events, the first right to expect success. In modern times, when a single blow does not, as in the days of "line-tactics," decide

the day, but when opposing forces devour each other in a struggle of long duration, a sufficient number of troops is of double importance. A superiority of numbers confers the means of holding the enemy in check with equal forces whilst initiating measures for his complete destruction with the rest.

A clever general will often manage to paralyse the whole force of the enemy with a smaller portion of his own troops, either deceiving him by audacity as to his strength, or by involving him in a very difficult task absorbing large numbers. Again, where the numbers on both sides are equal, local superiority at a decisive point may be established, which brings in good interest, whilst the enemy has invested his capital badly. Such incidents display a certain gift of economy; we speak, in fact, of a wise *economy of forces* as constituting another condition of success, which may, partially at least, compensate for a deficiency of resources.

When speaking of the importance of numbers in war, we do not, of course, mean to compare a large and bad army with a small good one, but always two armies which are approximately equal in point of efficiency. That numbers can compensate want of efficiency in only a limited degree, is a matter of course; and we would not speak of it, if the theory of the value of numbers were not, as a rule, met by the maxim that not numbers, but the spirit animating an army, is its strength. In the winter campaign of 1870–71 we were shown that even a double and treble numerical superiority of young untrained troops of the French Republic was not sufficient to counterbalance the greater military efficiency of the Germans. Numerous but indifferently organised and badly trained armies, when engaged in a struggle with well-disciplined forces, may even find an element of weakness in the unwieldiness arising from their very numbers. Dissimilar things can never be brought into arithmetical comparison; and no sensible man, on seeing three rams confronted by a lion, would speak of the superiority of the former.

From the circumstance that Frederick the Great at Kolin failed to succeed with 30,000 men against 50,000 Austrians, as Napoleon did at Leipzig with 160,000 men against 280,000 allies, Clausewitz draws the deduction, that in our modern Europe it would be very hard, even for the most capable general, to wrest the victory from an enemy of double his

own strength. "If ever we see double numbers of men place their weight in the scale against the talents of the best generals, we may not doubt that, in ordinary cases, both in great and small engagements, a considerable superiority, which need not, however, exceed the double, will be sufficient to ensure victory, no matter how disadvantageous other circumstances may be. We may, of course, have in mind a defile, where tenfold superiority would not avail; but in such a case we can no longer speak of a battle in the ordinary sense." The method of fighting has since that time wrought no change in this respect, and we must even to-day take Clausewitz's indication as correct. We thus arrive at the leading principle of modern war: *to show oneself, at the decisive point, as strong as possible.* To dispute the value of numbers is equivalent to denying this universally recognised principle.

Armament also figures largely among conditions of success. The bravest soldiers with spears and swords could effect little against breech-loaders and rifled cannon. There can certainly never be complete disparity between the armament and the *morale* of an army, since the latter includes intelligence, which takes care to provide good weapons. But untimely parsimony, technical mistakes, or obstinacy and false pride, which will not allow a weapon, once declared good, to be discarded, may, considering the rapid progress of our times, be productive of considerable inequalities. An armament corresponding to all the demands of the times is, on that account, all the more important, because the want of it immediately reacts upon the *confidence* of the soldier. Nothing is worse than that the latter should feel himself neglected in this respect, and to believe himself subject, without his own fault, to an effect against which he is powerless. Defeat would thus appear excusable, and success cannot have a worse enemy than this feeling. When dealing with weapons, we include, of course, proper skill in their use, otherwise the effect gained would not correspond to their value.

Fighting formations are also of great importance. By force of habit they enter into the flesh and blood of soldiers; and if they fail when used in serious earnest, they cause more despondency than ought to be yielded to such a motive. Fighting formations are laid down by the regulations. It is accordingly necessary that a proper sense of the practical

should prevail throughout. If mere considerations of spectacular effect or of faithful preservation of traditional usages prevail, the troops will, after their first experience of war, lose confidence and feel themselves insecure.

Having spoken of a wealth of combatants and material, we must now, in justice, appreciate *wealth generally* as a condition of success.

To make war we must have money, money again, and once more, money. Our modern wars, with their principle of the unrestricted use of all available resources, are not conceivable apart from the modern method of raising money by loans. The army of a great Power upon a war-footing costs day by day from eight to ten million marks. No State in the world is rich enough to store up a treasure to pay for its maintenance for several successive years. This can only be done by its credit. On the other hand, one may say, with a certain show of justice, that so long as a State possesses credit, its defeat is not decided. If Germany puts its whole organised military force in the field, it has about two millions of men under arms out of a population of fifty-five million souls. There always remain behind in the country large numbers who, in case of necessity, could bear arms to defend their fatherland.* A similar ratio obtains in the case of the other great Powers, and we may assume that the material resources at the disposal of the executive power will be exhausted sooner than the resources in men. Whoever has weapons and money is not, as a rule, defenceless.

Money will not of itself be solely decisive, but rather the degree of facility in its employment. States which, in the event of war, hold command of the sea, have greater facilities of utilising their credit than those whose harbours are immediately blockaded. The former are in a position to make use of foreign industry for arming and equipping new armies. Without this means the Government of National Defence in the last Franco-German war would never have been able to put in the field the great masses of troops, by

* Scharnhorst takes every fifteenth soul as a fighting man, and states that the Electorate of Hanover had even in the year 1759 with the Army one man for every fifteen souls of the population, and, in spite of this, kept its regiments up to their full strength until 1762. According to this ratio, Germany must now possess more than three and two-third million combatants.

which it astonished the world. If Napoleon had been in a similar situation in 1814, the course of the war would have been different. The Southern States, in the American War of Secession, succumbed in spite of their greater military skill and efficiency directly their over-sea communications were cut. The command of the sea is, therefore, immediately productive of an access of strength, even though the fleets be not in a position to give direct support to the operations of the land forces.

Granted that wealth gives great strength, it will, nevertheless, only bear fruit if the people be willing to make sacrifices betimes. That tardy sacrifices cannot retrieve what has been neglected at the proper time was taught to Carthage by the fate of Hannibal, and it paid for its error with the loss of its freedom.

In conclusion, all those conditions of success ought to be mentioned which are to be found in the appropriate use of the combatant forces. They will, however, be best explained in the following chapter, treating of the various phases of evolution and battle.

CHAPTER IV

MANŒUVRE AND BATTLE

1. *General Remarks*

AT the present day France, Austria, Italy, and Russia have eagerly followed the lead of Germany in military training. The internal efficiency of the troops of all nations will tend each day to become more equalised, till finally all will attain approximately the same level.

Before 1866 it was difficult to form a correct estimate of the Prussian army and the secret of its strength, for it had been trained without ostentation and unnoticed in its barrack-yards, on the exercise ground, and at manœuvres. Now, however, two mighty wars have convinced the world, and have made it familiar with the formerly unrecognised advantages of our military system. We shall not again surprise our enemies with it, but shall find them prepared for the peculiarities of our mode of fighting. Yet, it is very surprising that in France, in spite of the adoption of many German institutions since the great defeat, no one appears to have had a thought of conducting a future war on our model, but apparently they rather intend to go their own way. Obstinacy of resistance, and the wealth and resources in the hands of the defender, can, under certain circumstances, paralyse even the boldest and most energetic attack. Starting from these premises, the most elaborate defence of the national territory was initiated at great expense of thought and regardless of the financial sacrifices involved. The sole attention of the army was riveted to this object, which also governed the system of military organisation and training. Every effort was for the time being to be devoted to the creation of a feeling of security within the frontiers of France. From a French work, treating of the war of the future, which appeared a few years back, we extract these words: "As yet the French are not strong enough to vanquish the

Germans in their country, but we shall defeat them with ease on our own territory." Now that the primary object seems to have been attained, attention is again given to fostering among the troops the spirit of the offensive, with the view of opportunely joining the strength which it yields to the advantages of the carefully prepared defensive.

We have called attention to the extensive system of fortifications in France. Within recent decades its eastern frontiers have been provided with a girdle of fortresses and fortifications, leaving only isolated gaps, whose existence for definite military reasons is easily explained. The process of augmentation and improvement proceeds apace, and the problem of barring all the inroads from the east and north-east is practically solved.

We know how much an army requires in order to live and be provided with all necessaries, especially ammunition. It is not so necessary for the armies themselves, as for their system of commissariat and supply, that a number of roads and railways should be kept open. This shows that the French not only perceived that the principal superiority of the Germans lay in a *war of rapid movement*, but that it was also difficult for France to catch up to us quickly enough in it, since this demands appropriate training and education of all leaders. Initiative and independence here play the greatest part, and these cannot be inculcated in a short time, but require the labour of years; and so it was determined to renounce them for a time, and to deprive the Germans of their particular element of strength by barring roads and bridges with impregnable works and thus forcing upon them a struggle within a narrow space.

As to the best way of overcoming these new impediments, opinions differed widely for a long time. One favoured a defensive on the Rhine, in order not to come too near to the prickly necklace of hill forts. A second voted for storming; that is, passing over a troublesome article by simply proceeding to the order of the day. A third thought of cutting in between the forts, leaving the reserves in rear to take them, in order thus to dispose of the whole question. A fourth considered a short siege sufficient, whilst a fifth held a regular siege to be absolutely necessary.

The remarkable experiences of Plevna, where heavy guns of low trajectory proved powerless even against simple field

works, stimulated a movement in favour of the long-neglected high-angle ordnance. Subsequent marvellous progress in the improvement of the latter, combined with the employment of high explosives, have gradually created the prevailing opinion that it would be possible to inflict sufficient damage on forts and batteries, in a short time and from a great distance, to render them valueless as serious obstacles.

The means and methods of attack will, in reality, vary according to the condition of the attacking army and the character of its leaders. Pauses in the operations and interruptions in the advance must, at all events, ensue, and these do not only entail loss of time, but also enable the defender to bring up reinforcements and so to protract his resistance Thus a second retarding element becomes apparent.

In the East of Europe we meet conditions differing from those of the West. The frontier districts of Poland and Lithuania are also, it is true, prepared by great works for a protracted and obstinate defence. The works in question gain, moreover, additional strength from the presence of voluminous rivers and marshy lowlands ; and all the more important passages are barred by defensive works. Nevertheless, the closure of the approaches is not so systematic and complete as in the West. Wide spaces remain open for the advance of invading armies, which would, at first, facilitate the continuous march of military events, till other circumstances combined to bring about conditions similar to those prevailing in the West. The vast extent of country and the comparatively backward state of the roads are bound to produce a periodical suspension of operations, either for the purpose of restoring communication with the base, or to await a more favourable season. A war in the East would certainly not be decided by a single struggle, but would entail a succession of campaigns.*

Therefore, even though in a future war the leadership of our armies be just as capable and the bravery of our soldiers as great as ever, still we must be perfectly alive to the fact that it will not be possible to expect a similarly rapid course,

* Properly speaking, therefore, Germany is the only country which furnishes a suitable theatre for an energetic war which is to be brought to a rapid issue. But it is, on that account, also our endeavour that it shall never again be the arena of war, but that it shall fight out all its quarrels outside its own frontiers.

and like fortunate and speedy results, as in 1866 and 1870. As King Frederick after the battle of Lowositz had to write to Marshal Schwerin, "We no longer find the old Austrians," so shall we, at the beginning of a future war, be obliged to confess, "These are different from our foes of former times."

It is certainly profitable to make that clear to ourselves, in order that we may not enter upon a future war with false expectations. Disappointment would surely follow such illusions, and this might shake the confidence of the troops in their leaders, although the slow progress of events is quite in accordance with the present nature of things. The labour will, in the future, always be harder, and the reward at first far scantier.

The element of mobility in war is further affected by the enormous increase in the masses of troops. Millions cannot be handled with the same facility as thousands. They cannot, above all, exist so easily wherever they wish to turn; and their employment is dependent upon a greater number of circumstances.

In the accounts of the campaign of 1866 we read, that one of the columns with which General Benedek marched from Moravia into Bohemia extended over a distance of no less than sixty-nine miles. It would, accordingly, have reached, as the crow flies, from Berlin to Magdeburg, from Stuttgart to Anspach or Würzburg, or from Munich to Ratisbon; and yet, in comparison with modern standards, the column was not very long. It consisted of three army corps and a division of cavalry, about 90,000 combatants. Nor was it owing to negligence on the part of the troops that they extended so far. Previous remarks upon the strength and composition of an army corps have already taught us that a force of the strength referred to, and marching upon a single road, actually does require such great length of road for its movement.

This instance gives us a fair idea of the scale upon which things are done in modern wars; but the picture can easily be more clearly developed. Let us suppose the present German army marching upon a single road. Each of the cavalry divisions, here also placed at the head, is three miles in length. The army corps are next in order. Even if all the columns closed up without intervals, rank upon rank, and waggon upon waggon, yet they would cover 460

miles at least. The numerous reserves, which take the field with them, must also be taken into account; next the heavy artillery of the field army. Besides all these, there are the personnel and trains of the various staffs; further, the administrative departments of the army so far as they are not included in the army corps, and many other details. To our astonishment, a computation of the whole would show us that if the head of the column were marching into Mayence by the Frankfort road, the last company would only just be able to leave Eydtkuhnen, upon the Russian frontier. The whole length of road from the Rhine to the Russian frontier would be thickly crowded with soldiers, guns, and vehicles. If these were made to pass out through a single gateway, day and night, it would take a fortnight for all to pass through.

Such masses of troops, when concentrated, would, of course, fill whole provinces. The Austrian army of 1866 required almost the whole of the Margraviate of Moravia to quarter in, and the troops quartered farthest south had to make nine marches before reaching the head. In the year 1870, the sixteen German army corps, collected on the Rhine, covered 120 square miles of a very fertile country. For the whole of our present German army more than 200 square miles of country would be required, in order to quarter them, even though every place were full of troops.

Enormous, too, would be the length of front obtained if the gigantic armies of to-day were to be deployed in one single line. The individual regiments would in no way be in loose touch, but, a considerable extent of ground being occupied by fortifications, would be pressed fairly closely together. The assailant would accordingly find little opening for rapid and surprising strokes, for turning movements and unexpected attacks. The freedom necessary for such movements and attacks can only be gained after certain preliminary combats, which are meant to mislead the enemy as to one's real intentions, and to cause him to concentrate his forces, now here, now there, leaving gaps in his line. It is sufficient to dwell on those numbers which, at first sight, appear almost incredible, in order to gain a clear conception of the difficulties in the handling of modern armies.

The evil is remedied in a certain degree by the formation of separate armies, reserve corps, and distinct groups for the

execution of secondary objects. Nevertheless, even such formations are still large and comparatively unwieldy.

If we take the armies in the form which we consider most practicable, the strongest would consist of six army corps and three divisions of cavalry. Even though on forming up for battle a portion of the troops, say, two corps, were to be placed behind the front as a reserve, and another portion, perhaps a cavalry division, were detached on other service, four army corps would still be left in the first line. Each army corps requires for its proper deployment a space of considerably more than two miles.* This estimate was confirmed by the experiences of the great battles in the war with France. Accordingly each separate army of maximum strength would occupy a front of more than nine miles in length. However, the formation becomes somewhat less dense on the flanks. Commanding points lying at the sides are drawn into the position; the cavalry divisions extend their scope, being pushed out beyond both flanks. Taking that into consideration, the front becomes considerably wider. The bulk of the artillery of the corps in reserve will also be drawn into the fighting line, which again causes this line to extend still more. Certainly, the strength of an army is reduced in the course of a war by casualties on the march and in battle, which, however, only affect the infantry; the lines of artillery will remain practically the same throughout.†

Eleven and a half miles of front for our greatest, and half of this for the smaller armies, consisting of three army corps and a division of cavalry, appears, under ordinary

* At present the normal fighting front of an infantry battalion is taken at 225, of a battery at 75, and of a cavalry regiment in line at 300 metres. An infantry regiment of three battalions, formed in two lines, would thus occupy a front of 450, a brigade of six battalions 700, the division 1600, the army corps, if incorporated in an army about 3000, if independent, about 4000 metres. In the defence the fronts would become wider, that of an infantry battalion about 350, of a regiment about 700 metres. The width of front of an infantry brigade of six battalions is laid down in the regulations, as at from 1000 to 1200 metres; that of an independent division would probably be 2000, of an independent army corps about 5000, and of an army corps in combination with other forces about 4000 metres (4000 metres equal 2½ miles).

† Some losses in guns, which cannot be immediately replaced, may occur; but considering the great number of guns taken into the field, this is of little moment.

circumstances, to be a correct standard. On August 18th, 1870, the 7th, 8th, 9th, the Guards, and the Saxon army corps fought side by side on a front of rather more than nine miles. On the evening of the day the 2nd and parts of the 3rd and 10th German army corps were also absorbed into this line, but the ranks had been so thinned in the front by casualties of every kind that room was provided quite naturally. Days of battle with the troops unusually crammed together are now exceptions. Otherwise, not even in the closest bivouac, army corps will never be so near each other. As, however, woods, meadows, bogs, and water are excluded, just the same as ground swept by the fire of the enemy's fortifications, the configuration of the theatre of war may, under certain circumstances, impose inconvenient limitations. The Franco-German frontier, for example, affords barely sufficient room for the proper deployment of the two armies.

Though the principles of modern warfare may demand the most rapid decisions, and though, perhaps, those principles may lead to bloody battles at the very beginning of the struggle, it is yet probable that the whole result will take the form of a severe contest, in which the combating armies, as followed on the map, either move but little from the spot, or, in comparison to the extent of ground involved, make but very insignificant progress. Only when, after the greatest exertions on both sides, a crisis supervenes, followed on the one side by inevitable exhaustion, events begin to move more rapidly. *It is absolutely certain that in a future war events will not march with anything like the rapidity peculiar to our last campaigns.*

The picture of the gigantic combatant masses will, at the same time, explain the statement that the duties of the supreme command of an army have become more onerous than formerly. With such columns on the march, such tracts of country, and such fronts, many things must naturally be withdrawn from the control of the supreme command, which must take things as they are, and must bow to the inevitable. The cheap critical wisdom which is so ready to declare a certain action *inconceivable*, would become very subdued if it were only for once to think out in detail the mere sketch here given, and reflect what great difficulties must arise under the military conditions of modern days.

The telegraph, which generally connects the commander-in-chief with the troops under his command, may, it is true, overcome both time and space, but it cannot equalise diversities of views.

Owing to the very fact that the masses of troops on the march must spread out greatly, the number of opportunities for an accidental collision of certain parts with the enemy increases. Whenever this leads to a regular engagement, the neighbouring troops rush from both sides to take part in the action. Thus a decision at arms takes place at a place where it was not intended, and in an hour when it was not expected; and it thus comes to pass, that, just in respect of the most important in war, *i.e.*, action and battle, the supreme command is least free, and most of all dependent upon the will of others and upon the caprice of accident. In most such cases it will have to accept the *fait accompli*, the battle being already far advanced when it first receives news of it.

This small power of control on the part of the highest commanders as to the moment for a tactical decision is an element of particular difficulty in modern warfare, The best intentions of the commander-in-chief are often baffled, and his most correct calculations brought to nought.

It will be replied, that the will of the commander-in-chief must be known to all his sub-commanders, and that obedience must prevent such untoward events. But as it is equally impossible in the field to order everything beforehand, as to forbid beforehand, the individual is bound to act whenever a ray of light illumines for a moment a part of the gloom. It would be the greatest evil that could possibly happen if, from anxiety or fear of going wrong, generals and officers were always to wait for orders from above. All favourable opportunities would thus be lost, and the enemy left the upper hand at once.

Even in the rare cases in which great decisions are foreseen and provided for, as on the days of St. Privat and Sedan, the commander-in-chief can only launch his masses upon the enemy in the direction in which they are to act. More than this there is but little for him to do, except to say, with Mark Antony:

> Now let it work: Mischief, thou art afoot,
> Take thou what course thou wilt.

2. *The Importance of Discipline in Movement and Battle*

He who presents to his mind the size of our modern armies, will ask himself rightly how it is possible to lead such masses ; the reply is, that discipline makes them movable and amenable to control. There is no better solution of the problem. But the word " discipline " embraces so many interpretations, that its meaning appears rather vague and to need a more precise explanation.

The best explanation of discipline and its marvellous power is found in the saying of Darwin, contained in his *Descent of Man :* " The superiority which disciplined soldiers show over undisciplined masses is primarily the consequence of the confidence which each has in his comrades." This absolute confidence is, beyond all doubt, the prime means by which discipline works, and it most appropriately explains what we really understand under this trite word.

First of all, we require a code sufficiently rigorous to make the fulfilment of all higher commands appear as something inevitable ; " The power of the passions cannot be restrained without the help of law," is a saying of Scharnhorst. Disobedience, whenever it shows itself, must be punished promptly and adequately. It would be a fatal illusion to consider the rigorous enforcement of the law as something with which we could dispense. Such strict application of the law is the foundation of discipline, and it is of even greater importance that the necessity of obedience bear equally on high and low in the army. Example is far more effective than a written or a spoken word. As the soldier sees his superiors obey, so does he always follow their lead. Submission to a superior, who commands something at the moment, is not everything, but this habit of obedience should be manifest in all pertaining to the service. Nothing should be more sacred to the soldier than the calls of his profession. Simple duties are more easily understood by the private soldier than the higher obligations.

Hitherto the custom has been adhered to of assigning to regimental officers a share in the minor administrative duties, particularly those relating to the clothing and messing of the men. Economical considerations are not the reason, but the sole object is to make intercourse between superiors and subordinates more intimate, and to strengthen the influence

of the former. Work in the clothing store, in the quarters of his soldiers, and in superintending cellar and kitchen, makes the captain of a company the rampart and pillar of discipline, and the father of his troops ; and it is a significant expression of naive feeling, that the soldier prefers to call him " the old man," although he sees daily officers of greater age performing duty in the higher ranks.

This peculiarity in the life of the German army, besides creating the idea of the necessity of faithful performance of duty, has also produced a sense of common interests. Therein lies up to this day the strength of the army. The most cordial relationship has arisen between officers and soldiers in the course of common and serious occupation.

Every man in the ranks knows from experience that his officer does not, under any circumstances, leave the company to which he belongs, and that his company resembles a family with the same interests, and that, like it, it will hold together firmly in the hour of danger and distress. Thence springs that confidence of which Darwin speaks, and in which the great judge of human nature finds the superiority of disciplined armies. With composure the soldier presents his breast to the bullets of the enemy, being convinced that his comrade does the same, and that his commanders are in the lead, and he may not leave them in the lurch.

Important conditions affecting the preservation of discipline lie in the existing military organisation.

One of the foremost is due regard to the preservation of the usual peace constitution. A sudden severance of the tie uniting various bodies is bound to have an injurious effect on discipline, and the disadvantage thus created will generally outweigh any advantage gained by a redistribution into an increased number of units.

Considering the feature of family life obtaining in our army, such severance of ancient ties would be particularly ill advised. It lies in the very nature of our military constitution that a commanding officer should feel greater confidence in, and exert greater influence over, his own regiment or battalion, or a captain over his squadron or company, than over a strange body of men assigned to him on the outbreak of war. Inversely, the soldier will yield readier obedience to a superior known to him than to a total stranger.

It is of great importance in the interests of discipline that

on mobilisation reservists should rejoin the same unit in which they originally received their military training. Here they will meet old acquaintances, comrades and superiors, with whom they will soon be on good terms, and will find conditions once familiar, and to which they will readily re-adapt themselves. All share in the reputation and well-being of even this particular community, to which they were always proud to belong. They are thus animated by that *esprit de corps* which tends to produce noble emulation between units.

Tradition and *esprit de corps* can only develop when officers in one and the same regiment do not change too frequently; this applies in a particular degree to commanders of companies, squadrons, and batteries, in whose hands the training of the men lies. It is, furthermore, essential that the peace establishment of units should not be unduly low. The corporate body must have an imposing outward appearance if a definite tradition is to live in it. Fairly large numbers are also indispensable for various reasons of training. Companies and battalions on a low peace establishment lose their independence, since they are unable to represent at manœuvres the work of a corresponding unit in the field. That leads to the pernicious expedient of combining several and assigning them to one of the commanding officers present, as is done in various European armies even to this day.

Still another kind of discipline is requisite, which might be termed intellectual, in contradistinction to moral. Intelligence, if allowed to work in an army without rule, renders command extremely difficult, a condition which has been the frequent misfortune of improvised armies.

In militia and volunteer organisations, who are called out in the hour of danger, there is, generally speaking, no lack of able and educated men in the higher ranks. The best men in the nation, who would otherwise have remained strangers to military service, feel bound, under such circumstances, to respond to the call of their country. The armies of the French Republic in 1870 numbered many members of the highest aristocracy in the lower ranks, and there was certainly no lack of intelligence; but it was an undisciplined intelligence, wanting in uniform training; hence also an absence of unity of action.

This latter is guaranteed by a uniform system of training.

By this we do not mean that the scope of a commander's activity must necessarily be defined by rule; war does not tolerate schedules. Yet there must be a certain uniformity in the manner of performing given tasks, and this is obtained by certain general principles being engrafted into the flesh and blood of the commanders of troops by teaching and practice.

If such discipline of the intelligence exists, the commander may, with composure, leave much to the initiative of the individual. He will feel assured that in places beyond his personal control, something practical will be done, and in harmony with his intention, *though not perhaps exactly what he would have done himself.*

Uniformity in mental training will, moreover, only be possible where the whole body of officers is of the same social status. This condition naturally does not obtain in armies whose officers have partly risen from the ranks and partly graduated from military schools and academies; among such, perfect unity of action will never be assured.

3. *The Strategical Concentration of Armies*

The opening of the campaign is preceded by the concentration of troops on the frontier threatened. The importance of a correct concentration of troops grows in proportion to the numbers of the combatants.

The work of the Great General Staff upon the Franco-German War expresses itself on the point as follows: "Mistakes in the original massing of the armies can hardly be retrieved in the whole course of a campaign." Now, at the first glance the correctness of this saying may appear doubtful. One would think that much more depended upon the issue of the first battles and engagements, which, in case of necessity, would afford the chance of quickly rectifying mistakes committed in concentrating the troops. The history of war does not lack instances of campaigns, begun with the most unfavourable operations, taking a complete turn for the better after a single successful battle. Yet all these instances, without exception, must be relegated to antiquity. Modern war is characterised by the close reciprocal action of manœuvre and battle. That even to-day a campaign badly begun may suddenly, by a single victory, take a favourable course, is

certainly not impossible, but it is in the highest degree improbable. In view of the composition of the armies, the vast extent of country over which they spread, and the independence of the several component parts, the preliminary movements will always already lead to collisions. These movements can only take a favourable course if successful engagements be fought; as the entry of our armies into Bohemia, in 1866, was followed immediately by our successes at Nachod, Skalitz, Soor, Schweinstradel, Podol, Münchengrätz, and Gitchin, and the march of the Germans into France, in 1870, was attended by the victories of Weissembourg, Wörth, and Spicheren. The better strategical position of one side proclaims at once its tactical superiority also. A faulty concentration results in the forces not being at the spot where they are subsequently most required, in consequence of which it will not be possible to achieve the successes necessary to improve the general situation. Therein lies the far-reaching effect of errors committed in concentration.

The original massing of the French armies in 1870, in two distinct groups before Metz and in Alsace, was done with a view to a rapid offensive movement into Germany, which they neither possessed the means to accomplish nor even seriously entertained. The wide separation of the two armies, after the first disasters had rendered a junction imperative, compelled a long retreat. MacMahon's retreat to Chalons, and Bazaine's early investment in Metz, were the result, and the latter event led to the march upon Sedan and the catastrophe of September 1. The connection of the severe defeats, which were inflicted upon France in the first period of the great war, with the original strategical disposition of the troops is easily traced.

The concentration of the armies takes place at the moment that policy decides on recourse to the sword. Hence not only military, but political considerations also, must be weighed, after which questions of commissariat, quartering, geographical conditions, lines of communication, and roads demand attention.

No state will immediately at the outset of the war be willing to give up a threatened province, even when military reasons would make this appear to be desirable. The theory of war has certainly laid it down that such sacrifices must be made without hesitation when higher interests demand it. When

the conduct of war was exclusively dependent upon the sovereign will of an absolute monarch, this may have been correct. In our days the courage, strength, and confidence of the whole nation, as well as its national credit, play too great a part to allow of this theory being adhered to. Let us only present to our minds the impression produced, if a war of Germany against France began with the surrender of the left bank of the Rhine, or a campaign against Russia were to open with the abandonment of Prussia up to the banks of the Vistula.

The motives which might justify these measures in the eyes of soldiers would be hidden from the masses, which will invariably fall into a condition of extreme uneasiness if considerable tracts of country were abandoned by their own troops, and surrendered to the foe, without apparent necessity. The voluntary abandonment of a province means a simultaneous surrender of its resources. If the enemy is in the position to occupy it, it must, even if the course of the war is favourable, be retaken before the conclusion of peace.

Protection for threatened provinces is one of the necessary considerations from the first moment of the concentration of the armies.

This is not, however, to be construed as necessarily a direct occupation of the frontier line. Very frequently it will result indirectly from the proximity of a great army, which makes the advance into the denuded tracts of country so dangerous to the enemy, that he abandons the idea. If an immediate offensive be decided on, the effect of this movement will very soon secure one's own adjoining territory. The enemy can also, as a rule, only despatch inconsiderable forces to distant provinces. Therefore, reserve and Landwehr troops, or even general levies of citizens, may be entrusted with the duty of guarding them. For instance, in the year 1795, when war with Russia appeared imminent, the minister von Schroetter proposed to defend East Prussia, a province covered with lakes, hills, and woods, with a "Landsturm" of fifty to sixty thousand men, supported by a few fortified points.

The portions of the active army charged with the protection of the frontier during the process of concentration may only in quite exceptional cases be withheld thereby from participation in the great general operations. But if they at the same

time arrest the progress of one of the enemy's armies, they may be left detached from the main force, as, in such a case, they pay full value. In other circumstances they must, however, always be posted so as to facilitate their timely movement to the decisive point.

It is, then, essential to secure the integrity of one's own territory, but always with due regard for the co-operation of all forces in vigorous offensive action.

The transition from a state of peace to one of war will not always be as sudden as in 1870. In spite of all possible expedition, the concentration will take up a considerable number of days. The massing of great bodies of men and horses always entails manifold difficulties. Good quarters are not the sole consideration, but the question of commissariat demands even greater attention. Even though the troops bring some provisions from their home country with them, yet it will not be possible to dispense entirely with the resources of the district wherein the troops are being concentrated. It is certainly an invaluable boon, if they are well quartered. Immediate steps are also taken to form magazines. Purchases of supplies on a great scale must be possible either on the spot or in the neighbourhood. The railways serve principally for the transport of troops. Rivers leading from important centres into the concentration area are excellent auxiliaries. That the massing of troops can be more easily effected in a rich country, covered with a network of railways and roads and rivers, than in a poor and barren district, where special arrangements may be necessary, is quite evident. *The natural features and agricultural conditions of the territory, where the massing of the troops takes place, must therefore be carefully considered.* A vast number of combatants cannot, of course, be concentrated where fordless rivers, or hills, or trackless mountains would delay their subsequent movements; but this consideration is for the most part met by the fact that no great arteries of traffic lead into such districts, and that they are thus out of question for the massing of considerable bodies of troops.

But the position of the great lines of communication leading to the districts chosen for the concentration, especially that of the railways, is of supreme importance.

It is readily conceived that the belligerent, who completes his concentration first, holds a great advantage over the other,

since he can begin to move his forces and impose his will upon his opponent. Where the forces are approximately equal, he will also score the first successes, gain in *moral*, gather confidence, and command that of others. He will, in one word, dictate the law himself, instead of receiving it from others. Having acquired initial ascendancy, there only remains that he should know how to make the best use of it, in order to assert it permanently. The race between great modern armies in mobilising their forces on the frontier is thus explained. In this race the timing is no longer by day, but by hours. It is, therefore, of the highest importance for strategical concentration to use as many railways as possible, if possible all leading in the direction of the theatre of war. The plan for the concentration will, indeed, start from this point, since the question how the troops are to be brought up to the frontier on which they are wanted, is naturally the first.

Once the extraordinary importance of the rapid completion of strategical concentration is recognised, its connection with the *mobilisation* of the army also becomes patent. No regiment is capable of marching out immediately upon a complete war footing.* The reservists must first of all be recalled to the colours, each one to his own particular sphere of action. Hundreds of thousands—perhaps a million—of men will suddenly be torn from their firesides and set hastily in movement; and all details must be most precisely arranged beforehand, if a serious confusion is to be avoided. The mobilisation of the line regiments is least difficult; on the contrary, everything works with comparative ease. But numerous departments and other special branches must be newly formed. The first reserve, the garrison and depôt troops, the staff of separate armies, administrative staffs of occupied territory, the inspections of, and commandants on, the lines of communication, most of them with special staffs, composed of members belonging to various branches, are only formed on the day of mobilisation. All the columns and trains must be filled up, and horses and the waggon parks newly organised. The commissariat, field bakeries, post

* Disregarding units specially detailed to proceed to the frontier within a few hours of the issue of orders for mobilisation as a first frontier guard. Such units do not proceed at full strength, but complete to war strength in the presence of the enemy.

offices, telegraph staff, the paymaster's, the legal, sanitary, and chaplains' departments, must also be formed.

Commissions of all kinds are appointed. Men have to be clothed and armed, officers and officials furnished with horses, depôts formed, supplies purchased and collected. Fortresses threatened by the enemy must be put into a state of defence and provided with full military garrisons, officials, and all requisite organisations. Peace transactions must be wound up, or be handed over to other officers; records and registers must be placed in safe custody for the period of the war. The office service for the army in the field must be arranged and made efficient. Men, horses, and *matériel* of war must be forwarded by rail to the place where they are required. The transports to the frontier soon afterwards begin. All this has to be accomplished within a few days. In the year 1870 mobilisation was ordered on the night of July 16; and as early as August 4 the frontier had been passed and the first victory won. Nowadays we wish to be quicker still. A work must be accomplished which not only requires long and careful preparation in time of peace, but which in the moment of execution also sets the governmental and administrative machine in feverish activity, and makes it put forth its utmost energy, which even affects the whole of the nation. All private interests are deeply concerned. The days of mobilisation are days of great excitement and exertion for every one. "The mobilisation of an army, under our modern conditions, is a safe index of the value of the whole political organisation and the spirit of a people," as Colonel Blume rightly says.*

Owing to the number of authorities concerned in the work of mobilisation, it is advisable to spread a more general knowledge of the procedure. While the details of the preparation for the transition of the army from a peace to a war footing were still the exclusive property of the Prussian army—handed down from the time of Frederick the Great, and since improved on—some justification existed for secrecy. Since, however, the system has become the common property of all great armies, who mobilise on practically the same plan, there remains little to hide. Simple rules in the form of a handbook, as now published officially or semi-officially in France, are therefore quite in order. If such guidance be

* Blume, "Strategie," p. 66. Berlin, 1882.

withheld, many persons required to assist in the work of mobilisation will be left in ignorance of their most important duties, without any compensating advantage whatever. The result of the mobilisation—numbers, composition, distribution, and employment of forces—must, of course, be concealed and the secret carefully guarded. Both requirements are, however, quite readily compatible.

The plans of the supreme commander are mere castles in the air, without good preparation for rapidly placing the army upon a war footing. The enthusiasm of a whole nation cannot replace a deficiency in this respect. The example of France in 1870 is before us as a warning. At that time the numerical superiority of Germany was known in Paris, and it was thought to neutralise this superiority by boldness and rapidity. The idea was a good one. The whole people, carried away by wild martial ardour, demanded energetic measures—a material aid to an energetic *régime*. But for the purposes of putting them into execution it was needful, above all, that the Germans should be outdone in the rapidity with which the armies were massed; instead of which, however, confusion and stagnation made themselves felt from the first. The boldest plans would have been impotent. The machine refused to work.

Some of the telegraphic cries of anguish, which flowed into the French Ministry of War upon all the wires from helpless subordinates, are well known:

"9000 reservists here, I do not know what to do with them. In order to make elbow room I shall send them all to Algiers, upon the transport ships here in the harbour": the territorial commandant at Marseilles reported.

"How far have you got on with your formation? where are your divisions? The Emperor orders you to hasten their formation in order to join Marshal MacMahon as quickly as possible." With these words the major-general of the army, who had till then been Minister of War, addressed himself to one of the commanders of an army corps.

"Send me funds to enable me to provision my troops; there is nothing in either the public treasury, or in that of the corps," a general was heard to say.

"In Metz there is neither coffee nor sugar, no rice, no brandy, no salt, only a little bacon and biscuit; send me at least a million rations to Thionville," telegraphed the

commissary-general to Paris. The quartermaster-general of the third army corps reported at the very moment when his troops should start, "I have neither nurses nor ambulance waggons, nor officers, nor field bakeries, nor train."

And so it went on. Haste, mistakes, deficiency, disorder reigned supreme, whilst the mobilisation of the German armies was accomplished with an almost silent calmness. These latter broke into the country over the frontier before, on the French side, the first step had been taken towards meeting the demand for the *offensive* which should put everything right. The idea of crossing the Rhine and separating North and South Germany from each other was a thing of the past.

The same will always be the fate of projects of war when peace preparations have not been made correspondingly, and when intention and means of execution do not coexist.

Yet danger does not lie in neglect alone. Excessive demands, such as the rivalry between different great states in the acceleration of the mobilisation and concentration of their forces may produce, are quite as dangerous. The greatest strength fails when charged with impossible tasks, and men labouring under the feeling that such is the case lose coolness and clearness of head. Any one at the time of mobilisation not possessed of perfect vigour, both of mind and body, will not, in any case, be capable of responding to demands. Men in high command must, therefore, avoid all over-exertion quite as much as inactivity. Nothing, in critical moments, has a worse effect than nervous strain. Our simple forefathers knew nothing of what the excitement of our modern life has made a fashionable disease. Valuable as all time gained in mobilisation may be, yet it must not be bought at the expense of order.

As the concentration of the troops is intimately connected in one direction with mobilisation, so also is it intimately related to the intentions as to the *opening operations*. A form of concentration adapted to a projected offensive may be very unfavourable for the defence, as was experienced by France in August, 1870. The original distribution of the troops is rarely final. The supposed intentions of the enemy naturally commence to make their influence felt at once. A due consideration of these intentions enters into the plan of campaign.

The concentration of the armies of two Powers of the first order presents us to-day with the picture of the most stupendous migration of peoples. Each contains a million of men, and several hundred thousand horses, as though it were a small realm set in motion and wandering to the frontier in order to spread its whole population over a small district. But for our modern means of transit, it would be impossible to move and provide for such masses. It is only possible, because States like France and Germany have so much rolling stock at their disposal, as to be able to entrain their whole active army *simultaneously*.

One need not insist on the trouble and care necessary in the organisation of this migration of peoples and the movement of numerous railway trains going and returning. The preparatory labours for this special service absorb a considerable number of officers, officials, and engineers in time of peace.

In the year 1870, the most instructive part of the concentration of the German army was, in the first instance, the justifiable boldness with which, in spite of the suddenness of the French declaration of war, the scene was laid beyond the Rhine, and, secondly, the confidence which permitted of direct protection of Southern Germany on the Upper Rhine being dispensed with, in order to concentrate all available forces in the Palatinate. Nothing could be more correct; for the great German armies, which appeared on the Saar, threatened France and Paris so immediately, that the enemy could no longer entertain any idea of far-reaching operations.

Definite rules cannot be laid down for the concentration of troops, any more than for other operations of war. We can only in a general way examine the conditions upon which the first massing of the armies is dependent: All, or part only, of these conditions may be present, but their effect will differ in every instance. Their correct appreciation under given circumstances requires a military *coup d'œil*, though sound military training will also do much in this regard. If, therefore, the study of strategy be pursued with the single object of gaining assurance that appropriate dispositions will be made at the opening of a campaign, this one benefit will be ample compensation.

4. *The Plan of Campaign*

"*Je n'ai jamais eu un plan d'opération,*" is a saying of Napoleon. But faith in a plan of campaign has nevertheless survived to our own days. Great soldiers, whose statues are erected by a grateful country, have a drawn sword placed in their hands, when they have gained glory as leaders of troops, while those who have been pre-eminently regarded as "thinkers" hold a scroll. This scroll symbolises their plan of operations, the sign of their special merit. It is said of them that they calculated beforehand and foretold the exact course events would take, and when and how they would defeat the enemy. Of Frederick the Great history narrated erroneously, for a whole century, that exactly on May 4 he intended to be before Prague, and to defeat the Austrians on the 6th. How widely spread, too, was not the assumption that the battles of Königrätz, Thionville, Metz, and Sedan were all in accordance with the plans of the German great general staff!

But now we are told by the work of the general staff relating to 1870: "Only a layman can pretend to trace throughout the course of a campaign the prosecution of a rigid plan, arranged beforehand in all its details and adhered to to the last. The commander-in-chief most undoubtedly will, in spite of the changing fortunes of war, always keep the main object in view, but the means by which he hopes to attain it *can never be sketched out with certainty long beforehand.*"

That approaches Napoleon's saying, and we may even assume that practically his meaning coincided with ours. So far as the first course of action could be perceived with any degree of clearness, he also studied it and thoroughly prepared the way for success. Notwithstanding his audacity, he was a very cautious general, and his adverse judgment was only passed upon the plans of the old school of military savants, which, in spite of their veneer of sagacity, were but the lucubrations of incapable *dilettanti*.

With the commencement of the operations following the concentration of the troops, that dominant element in war, uncertainty, begins its sway. In the reality of war, things always turn out differently from what was originally expected, and nothing is more natural. "The independent will of the opponent soon opposes one's own." Whoever would calculate

the course of events beforehand, must base his calculations upon a known and an unknown quantity. Hence the result must be absolutely uncertain. An element of certainty does not arise till it has been decided which of the two parties is the stronger, when the stronger will know that he is able to carry out his own intentions wherever the enemy crosses them. His combinations then are on a firmer basis than those of his opponent.

Each of the belligerents will endeavour to create such a situation for himself, and so it comes to pass that, taking a simple conception of war, a great decisive battle will be sought by both parties. At all events, that will be the aim of the party which is determined, and inspired with confidence in self. *The first object upon which the movements of the armies are directed is, accordingly, the enemy's main army.*

Wherever this principle is departed from, the consequences will soon appear. The last instance of this is afforded by the summer campaign of 1877. The Russians, having once crossed the Danube, very quickly reached the passes of the Balkans, and pressed forward through this protecting range of hills. It appeared that the road to Constantinople lay open, and that in two weeks would be gained what had been expected to take months. But the realisation of this success was still subject to grave misgiving. The Turkish armies on the north side of the Balkans were as yet undefeated, and the fate of the campaign depended upon the successful execution of the task left unaccomplished there, not upon the mere gaining of a few passes. Scarcely did the armies of the Osmanlis give the first signs of life and appear on the Lom and at Plevna, on the flanks of the Russian advance, when all previously gained had to be renounced, in order to pursue the hitherto neglected decision in open battle. Until this decision occurred all forward movement was arrested.

In the battle, the victor subordinates the will of the enemy to his own, but does not entirely suppress it. Absolutely decisive battles, like that of Sedan, in which whole armies disappear from the theatre of war at a single blow, are very rare. The will of the defeated will still assert itself somewhat. MacMahon's influence, notwithstanding his defeat at Wörth and the defective condition of his army after its reinforcement at Châlons, was yet sufficient to divert the German main army from its march upon Paris to the northern frontier.

Even a successful battle does not ensure the full execution of plans. After the battle this also depends upon the circumstances of the moment, and upon the complications resulting from effect and counter-effect. These lead to fresh actions, and each battle changes the situation as completely as a twist does the coloured glass of a kaleidoscope. Thus the general is compelled every day, and often within a period of a few hours, to modify his plans to suit fresh situations. Military history rarely gives prominence to this feature. Owing to the abundance of events, it is generally occupied with the occurrences which command general interest after the event, and dismisses with a passing reference occurrences of momentary importance, which thus fall into oblivion. After a war one ought not only to write the history of what has taken place, but also the history of what was intended; the narrative would then be instructive. The web of determining influences is much denser than is generally imagined. A day about which we only read a few lines in a book may, in reality, have been fraught with great historical interest.

No plan of operations can with any safety include more than the first collision with the enemy's main force.

Unfortunately, the strategic plans of the generals commanding-in-chief only seldom transpire in their entirety. As a rule, political considerations prohibit publication. Of all the greater value are isolated instances, where they have been printed, such as the Memoir of the Prussian General Staff,* which subsequently formed the basis for the first movements of the German armies in the great war. We there find, after a general survey of the position of Germany and France, and a comparison of their respective forces, the advance of the three armies described almost exactly as it actually took place. Even every detail within the province of the commander-in-chief is given. Further, the immediate object was declared to be to find and attack the French main army, which, in any case, might be assumed to be close to the German frontier. The lines of advance, as adopted in the memorable days of August, were thus easily determined. Beyond this, we are told, only the one leading idea is discernible, namely, to force the hostile armies in a northerly direction away from their communications with Paris. At

* "Project," written in the winter of 1888–89; see German "Official Account of the War of 1870–71," vol. i. part i. p. 50.

the moment it certainly was not possible to do more than indicate the object which it was most strongly desired to realise.

The idea thus generally outlined was reasonably sure of realisation, though a prophetic calculation of every single movement ensuing was out of question. In the advance of two German army corps upon the Moselle, southwards from Metz, towards which latter place Bazaine had withdrawn, in the movement of the third army upon Châlons, in the march upon Sedan—everywhere the endeavour can be perceived to drive back the enemy into the smaller northern part of France, and to cut him off at the same time from his metropolis and the resources of the south. But even the gift of prophecy would not have enabled us to foretell that Bazaine would decide to remain about Metz, and that MacMahon would thereupon be obliged to undertake the disastrous march to his relief. Such decisions are dependent upon the doubts swaying the mind of the general at the critical moment. A mere accident, information, not important in itself, an encouraging or dispiriting word, may modify his calculations and plans.

Only strategic plans of such wise limitation as those referred to have prospects of realisation. Hence the term "project of operations" is more appropriate than "plan of operations" or "plan of campaign."

Projects of operations and the details of concentration must be worked out together. First of all, the general political situation would be considered in its main bearing, generally combined with an estimate of the forces at the disposal of the belligerent parties. The result of these initial deliberations will be a decision as to the power against which the main forces shall operate, so as to bring about a decision, of real political effect, and as to Powers with which it is intended to temporise or merely to keep them under observation. The simple case of only one Power having to be considered is rare. In most cases allies, doubtful neighbours, or secret as well as declared enemies, demand attention. Germany especially, owing to its central position between great Powers, must ever look to every side.

Let us, for instance, complement the 1868 project of operations by the supposition that Austria had demanded attention as an ally of France. As at that time only two

years had elapsed since the Austro-Prussian War, such a supposition does not lack the requisite element of possibility, and makes the example more instructive. In that case the first consideration would have been, whether the main army of the North-German Confederation should be employed against France or against Austria.

On the French frontier, the Rhine, with its fortifications, formed a very strong line of defence, which might have been held for a long time even against superior numbers, whereas on the Austrian frontier such a line of defence was wanting. But in a weak defensive against France, South Germany would have remained without protection. The French could have evaded the North-German Rhine front by marching *via* Worms, Mannheim, or Speyer, and have advanced on Berlin by the great road through Franconia which Napoleon used in 1806. Meanwhile the offensive of our main forces against Austria would have come to a standstill, perhaps before Olmütz, or on the Danube. It would have been equally possible that the Austrian armies would have immediately retired in that direction in order to give the French time to score successes. Besides, at that time, the Austrians required several weeks to become ready for war. On the other hand, it might have been said that the French, once German troops were on their soil, would not have waited for Austria, since their national pride would not have suffered that. Here, then, was a case for quickly dealing a decisive blow, the effect of which might alter the whole situation, and possibly induce Austria to sheath her half-drawn sword. Austria might, moreover, have been restrained by the fear of Russia. Therefore, in the given case, it would probably have been decided, in the first instance, to put only a weak army in the field against Austria, and to launch the main force against France, with a view to fighting a great battle with superior numbers at the earliest possible moment.

In the event of other political groupings we shall similarly have to study the question as to where the main army and where minor forces should be employed, or whether, as in 1870, it be advisable to operate with the whole force against a single enemy.

Such questions being decided, we pass to the details of the strategical concentration. As this process must, if possible, be completed earlier, but, at any rate, simultaneously with

that of the enemy, it will simply be necessary to distribute the troops over all the railways leading to the frontier, in such a manner as to avoid every détour and all loss of time. The last stations within the radius of secure occupation mark approximately the line of development of the concentration. Next come the manifold considerations of a political and geographical nature, already explained, in addition to which general economical conditions must also be regarded. We must take into consideration whether the general situation compels us to await the attack of the enemy, or whether, which is always desirable, we should take the initiative. As in the latter alternative the object in view is the enemy's main force, it follows that its probable concentration will be of the utmost influence upon our own. Here we are somewhat in the dark, but if we study carefully the position of the railways in the enemy's country; consider his necessity of covering his threatened provinces and, later, his capital; and if we examine the nature of his existing frontier defences, the probable course of his concentration can be divined with tolerable exactness. We shall never be far amiss if we keep our eyes on the large railway centres near the frontier, since here also, as in our own case, they prescribe the section of country in which the concentration must take place. Extraneous movements dictated by secondary considerations can never assume great importance, when it is considered that the same lines which convey the several parts of the army must also carry all impedimenta, besides keeping up a constant supply of fresh men, horses, food, ammunition, clothing, and material of all kinds, thus being permanently absorbed in the service of the same contingents. By such considerations the solution of the problem becomes greatly simplified; and, putting things in the worst light, there remains but a very limited range of possible contingencies.

If we have made up our minds as to the enemy's concentration, *the project of operations* (supposing there be still scope for choice) will readily fix on the part of the frontier where our own troops ought to be massed, and upon which the railway transports in the last stage will be directed, branch and local lines being made use of. The final disposition of the troops will be effected by marching. Care must be taken to allot sufficient room to each corps to ensure reasonable comfort. It must also be taken into consideration that, in

case of intended defensive, it must be possible to combine the troops for battle in a good position, whereas in the case of an intended offensive each army corps must have at least one good road leading from its quarters straight to the enemy. The cavalry divisions must always be placed in the van, otherwise they would have to be brought up through the other troops to enable them to begin their reconnoitring duties. This would not only tend to produce confusion, but would also deprive the cavalry of quarters for the period of their passage through, all the villages and towns being already fully occupied. They will, as a rule, be the first to entrain, or, at all events, a part of them, by which arrangement they will naturally be placed in the lead.

The position of the railway termini, and of the roads upon which the last short marches are made into the area of concentration, usually determine the natural grouping of the assembled forces in several armies. It was thus in 1870. At all events, no unnecessary movements involving loss of time will be undertaken merely in order to make one particular army stronger than another, or to assign particular corps to a given group.

The measures so far dealt with form the basis on which to elaborate the schedule of transport by rail for purposes of concentration, though its practical working will suggest many subsequent amendments to the project of operations.

Once the transport arrangements in connection with the concentration have been definitely fixed, the project of operations can be advanced another stage by defining the steps immediately succeeding the completion of the assembly of troops, since it will then be possible to estimate the number of troops available on the frontier on any given date. The same may be calculated with regard to the enemy, and conclusions may be drawn as to what the latter might undertake and what counter-measures are called for. It will further be seen at what moment one has acquired sufficient strength to be secure against surprise, when the numbers available are sufficient to warrant an advance and the opening of active operations. In conclusion the general direction of the proposed forward movement will be indicated.

By working with painstaking care, it will often be possible, even during the progress of concentration, to single out

certain moments when circumstances are in one's favour, and when numerical superiority is established at certain points, whereby it becomes possible to disturb the opponent's concentration by bold ventures, which, therefore, may be initiated before the opening of general operations.

Special considerations are called for where conditions at sea or the question of coast defence are likely to be of moment, that is, if we have to reckon with naval operations and the possibility of hostile landings. Though generally factors of secondary importance, these may, by the force of circumstances, exercise a most decided influence. It suffices to quote the example of the Ottoman Empire in support of this view. Its capital, which contains all the great military institutions, the depôts of arms, ammunition, and *matériel* of every kind, thus being the most important place of arms, as well as the principal naval port of the empire, is situated on a strait accessible from two seas and navigable by vessels of deep draught. In addition, the government of the country is purely autocratic, the idiosyncrasies of the ruler holding absolute sway over the attitude and the destinies of the country. Hence a transfer of the seat of government at the moment of threatening danger would be inopportune by reasons of domestic policy, and a lucky stroke from seaward might decide the fortune of war at the very beginning.

Though fairly protected on the Mediterranean side by the fortification of the Dardanelles, Constantinople is very vulnerable on the side of the Black Sea, although its coast is no farther than 14 miles in a straight line from the city. While formerly the Turkish fleet in these waters was superior to that of Russia, in recent times the ratio has been reversed. Surprise landings of Russian troops at the gates of the capital are therefore quite possible on the unexpected outbreak of war, and would be of greater import than the appearance of a British fleet under Lord Duckworth under the walls of Stamboul.* Such enterprises would probably be fateful for the country and neutralise all other preparations for war. This, then, is an instance in which regard to the possibility of hostile naval operations would be of prime importance in any project of strategical concentration and disposition of troops, and in which a considerable force would have to be held in readiness solely for the security of the capital.

* February 20, 1807.

In the case of a project of operations for an offensive campaign, the points at which it is proposed to force the enemy's frontier defences should be approximately indicated.

Even where it is hoped to obtain the surrender of certain works simply by bombardment, success by means of field artillery alone can never be expected with any degree of certainty. Heavy artillery is required for this purpose, and its disposition demands due consideration in the plans of concentration, since its subsequent movement would be very difficult at a time when all the roads within the area of operations will be crowded.

For similar reasons it should be decided beforehand what fortress, if any, within the enemy's territory is to be besieged. No State can operate simultaneously against several modern fortresses of first rank with reasonable prospect of success, the requisite amount of *matériel* being so enormous, and the loss of time entailed by its transfer from one locality to another being likely in most cases to jeopardise the much desired result.*

The complete text of the project of operations will not, usually, be submitted in writing to the *staffs* of the different armies : it is, however, of importance that the commander-in-chief of an army, or his chief of staff, should be informed of the general scope of its contents, in order that they may not grope in the dark during the preliminary operations, which are frequently of decisive influence upon the whole war. Even in 1870, we are told by the work of the general staff, there was no lack of misunderstandings at the first advance on and across the Saar.

It would, perhaps, be wise to assign a share to those selected in time of peace for the positions of chief of staff to the several armies in the task of elaborating a project of operations, if not in working out a definite plan of campaign.

It is not difficult to perceive that the project of operations cannot be the work of a day ; that it is evolved gradually, or, if originally cast in a rigid mould, that it must eventually be amended and complemented. Though one be still on

* The project of operations must be supplemented by the addition of railway and route tables, a summary of the composition of the mobilised armies, a list of the officers in command, and information relating to the enemy, a sufficient number of copies of such details being easily produced by a multiplying process.

safer ground than in the decisions necessitated during the succeeding phases of war, yet even here we are very much tied down. The leading strategical idea depends so much on the mobilisation and the concentration by rail, as to be deprived of much of its former freedom in directing the flow of troops. If thereby the danger of creating vain conceptions is minimised, on the other hand the work generally is made infinitely more difficult. The concentration is now completed, the armies are in motion, and there only remain the general considerations, which rule now the same as in former times.

One certain principle merits final notice. Even though the project of operations takes cognisance, as a rule, of several possible contingencies, yet one must never attempt to form a general project that will meet all cases, for such would generally be of a nature to prove effectual in no single case. After weighing all possibilities, the most probable must be finally adopted, one's own plans made up accordingly, and steps taken to ensure their energetic execution.

Dangers, doubts, and matters of secondary importance must not be disregarded, yet should only meet with consideration in so far as not to prejudice the measures taken to realise one's own designs. Herein lies the true sense of the maxim, so often quoted, so seldom rightly understood: "Erst wägen, dann wagen" (First weigh, then venture).

As in all great decisions in war, so in the formation of the project of operations, a certain amount of bias is of paramount necessity. Whoever cannot descend to that will never, in the presence of a large number of equally plausible views, succeed in grasping one single great purpose; he may, perchance, prove himself to be a subtle reasoner, but never a great general.

5. *Intelligence and Reconnaissance*

Intelligence of the enemy is, as Clausewitz says, the basis of all ideas and actions in war. Hence it merits a prominent place in these reflections. There is no more rational guide in forming one's own decisions than the probable action of the enemy. But it is by no means permissible to subordinate one's own intentions to the action of the enemy, for he who approaches his task with a faint heart confines himself to the defensive. The more robust mind aims at imposing his will

upon the enemy by energetic action and by striking the enemy in his most vulnerable spot. In order to be able to do even this, it is essential to ascertain his intentions. Good intelligence confers great superiority. "If we always knew the enemy's intentions beforehand, we should always, even with inferior forces, be superior to him."*

Nowadays we bring a fair knowledge of the enemy with us into the field, as his military organisation is carefully studied in times of peace, this being a material part of the work of the general staff. A correct estimate of the qualities of the enemy before the campaign forms the requisite basis of the whole service of intelligence. As to the first assembly of the enemy's forces, one will not, as has been seen, be in complete uncertainty. Even during the time that the first transports of troops take place, the enemy's country is not entirely closed, communications thence still being possible. After the commencement of operations, however, things assume a different aspect, and the original picture soon becomes distorted and obscured. From that moment it becomes a question of kindling fresh light from day to day. Among the means available to this end, those which the armies possess in their own energy are far preferable to all others. The ill repute of espionage is undeserved, and its utility in modern warfare is restricted to a few cases. When, in 1870, it was observed in France that the German commanders evidently acted upon good information, loud cries of indignation were raised against Prussian espionage, which, as alleged, was traceable in every direction. This indignation only proved that the *Grande Nation* of those days had not a very clear conception of the affairs of war.

In reality, the cavalry is the eye of the army. The unceasing activity of this arm is the best means of ascertaining with clearness the dispositions and intentions of the enemy. Its mobility enables it, so to say, to anticipate events. It discovers to-day what awaits the army to-morrow, or even on a later day. Its functions are to find the enemy's columns on the march, his camps, and his outposts, and to keep them constantly under observation. It must encircle the enemy like an elastic band, retire before him when he advances in force, but cling to him and follow him when he retires. The intelligence that it brings has the advantage of being first-

* Frederick the Great, General-Principia vom Kriege, 1753.

hand, and of applying to what is of importance at the moment. It has this great advantage over the reports of spies, that all the intelligence comes from professional persons competent to judge. These duties demand a keen intellect and a thorough knowledge of war; but the cavalry officer of the present day is specially trained for them.

This gives occasion for some reflections on reconnaissance duties in general. Text-books say much of individual well-mounted officers, accompanied by a handful of daring riders, breaking through the enemy's outposts, passing round the flanks, and making their observations right in the front or in the rear of the enemy's main army. An example of this kind is related by Heros von Borcke in a very interesting manner.* Such performances are always most creditable, but they are difficult, as the enemy will use his cavalry in the same way.

They require an extraordinary amount of courage, exceptional sagacity, and equally exceptional good luck. Therefore, we must not build our calculations entirely upon them,† much as all good cavalry will endeavour to distinguish itself in that way. It is also of vital importance to have touch of the enemy at a considerable number of points, since any one piece of intelligence will rarely give adequate information. The great dimensions of modern armies, to which we must constantly call attention, prevent that. Yet reports from twenty or thirty different places give us the required range of view.

It is quite as difficult to compile reports as it is to draft orders. Clearness is the chief requisite. It is impossible to lay down rules as to what must be reported and how to report it. In regard to great operations of war it is, with few exceptions, only reports from officers that have to be considered. All the more reason that one should be able to rely upon the

* General Stuart, the commander of the Virginian cavalry, accompanied only by von Borcke, rode through the Union outposts in the night of June 8–9, 1862, reconnoitred the ground within the hostile lines, and placed himself in personal communication with one of his spies. The latter gave him the required information as to the enemy, which enabled him to begin one of his finest raids on June 12, by passing round the flanks of MacClellan's army (H. v. B., "Zwei Jahre im Sattel und am Feinde." 2te Auflage. Berlin, 1886. Page 27).

† In the campaign of 1870–71 there were many very successful reconnaissances by individual cavalry officers to record; but we must not forget that the enemy's cavalry obstructed their operations very little. In the future that may be different.

judgment of one's informants. Only certain incidents are of such an important character as to necessitate an immediate report. Whenever the enemy is first seen ; when his infantry and artillery follow close upon his cavalry which alone had been at first under observation ; when positions, which were believed to be occupied, are found to be unoccupied, important passages open, rivers of importance unguarded ; when a particular change is observable in the enemy's direction of march, and when a distant sound of guns announces a conflict, intelligence is always sent back in order to rapidly acquaint the commanders of the columns in rear. It is often quite as important for the commander-in-chief to know that his cavalry have nothing to report, that they cannot discover the enemy in any given direction, as that the latter has been met with in another locality. The assurance of the general is materially enhanced by the negative supplementing the positive. This fact alone shows the importance of frequent reports, even though there be no special news to give.

Hearing and hearsay will, of course, in the case of the cavalry also, amplify to a great extent what has been seen.

Careful examination of the inhabitants is most important. Facility of communication has in these modern days vastly increased the general interest and the public curiosity. Reports of great military movements always spread. It is often quite enigmatical how quickly, in spite of interruptions to the ordinary means of communication in war, vague intelligence flies which has a substratum of truth. The country population in the neighbourhood of Metz had news of the march of MacMahon to Bazaine's relief, at a time when that movement was as yet in embryo, and none of the great battles preceding Sedan had occurred. Of course, a great difference will be observed between various nationalities. It is certainly much harder to obtain anything from the stolid Russian and the reserved Englishman than from the animated Frenchman and Italian. But something can always be learnt ; and it is by no means necessary that the roaming patrols should succeed in meeting traitors to give important information. Any person interrogated will, merely in order to put an end to the annoying cross-questioning, say what appears to him quite unimportant. But from a hundred unimportant things one important item may be collated.

From the absence of news from any district it is, moreover,

permissible to draw the inference that military movements are actually not in progress. This conclusion must not be dismissed, since it increases assurance to a considerable extent. It is not correct to imagine enemies everywhere. We may rely upon it that wherever they are, they will soon make their presence known in some way.

The person reporting must strictly exclude all personal conclusions from his reports. The sole requisite is to announce all that has been seen, and exactly as it happened. It is within the province of the higher commanders, who are in a position to trace the connection between single phenomena and the situation as a whole, to assess the value of each item of information.

Very frequently a suggestion embodied in an officer's report has been the cause of operations which, though appearing advantageous from his point of view, yet ran counter to the interests of the army in general.

Every report must also plainly distinguish between what has been actually seen, and what is derived from an outside source. After it has been committed to writing, the art of the reporter will consist in putting himself into the place of the recipient, so as to see if everything would be intelligible to him.

Valuable additions to its intelligence can be gained by the cavalry by capturing papers. It is first to enter places in the enemy's country hitherto not visited, find letters in the post office, telegrams at the telegraph office,* newspapers in the possession of private persons or in the hotels and restaurants; and all these are valuable means of acquiring intelligence. The cavalry must display a talent for finding such sources of information. Even the most insignificant thing must not escape it. Moreover, it is not difficult for enterprising commanders to put life into this particular branch of duty, as every man takes a certain pride in making discoveries.

In order to see much, the cavalry must spread widely, and if able to extend beyond the enemy's wings, a considerable advantage is gained, since it will thus, at the same time, more effectually screen the movements of its own army. But, on the other hand, the veil must not be too thin, lest the enemy

* As is well known, during the campaign on the Loire, the register of messages found in a French telegraph office gave much information to the staff of the Second Army.

break through it. Closed bodies of cavalry must follow the patrols, in order to prevent this.

The enemy will think and act in the same way, the natural consequence being that the cavalry divisions in front of the armies speedily come into collision. Thus, where the space between the armies and the nature of the ground do not preclude it, a series of cavalry skirmishes will be the prelude to the general operations. Only the side that succeeds in previously defeating the enemy's cavalry can achieve great success in securing intelligence, as otherwise individual officers and small patrols would not be able to penetrate to the enemy. As a matter of fact, none but a superior force of cavalry will avail,* for the weaker will surely be very soon driven back upon the marching columns of the army corps, and would become a burden rather than a help, being unable either to screen the movements of its own corps or to observe those of the enemy. This condition must be taken into account in the much-discussed question as to how much cavalry we ought to have.

Much has been said in recent times of distant raids of large masses of cavalry in the flank and rear of the enemy, quite beyond the scope of reconnaissances, and having for their aim the destruction of railways, telegraphs, bridges, magazines, and depôts. The American War of Secession made us familiar with many such raids, by which such men as Stuart, Ashby, Morgan, and others attained great renown. But before attempting to introduce them in our possible theatres of war, we must first take into consideration the different natural features, the economical conditions, and the area of most European countries, but more especially those of the West, not to mention the radical difference in military organisation. If a body of horsemen, under a partisan leader, was defeated in such an enterprise, or if, when surrounded by the enemy, it dissolved, that event was of little consequence, if only they had first justified their existence by a few successes. Quite a different impression would be caused by the annihilation of one of our cavalry regiments, by history and tradition closely bound up with the whole army, and, when once destroyed, not so easily replaced as a volunteer band of adventurous farmers' sons.

* Superiority must, of course, be sought, not merely in numbers, but in a happy combination of efficiency and numbers.

The systematic organisation of the defensive power of civilised nations is also opposed to raids. Even when the armies have already marched to the front, incursions of horsemen into our densely populated countries can, with some little preparation, easily be checked by armed citizens. The French Franctireurs in the western departments faced our cavalry, whenever they met isolated detachments ; and what is more probable than that well-ordered levies, such as our " Landsturm," organised in time of peace, would render much more effective service of this kind ? If favoured by the features of the ground, they would have nothing to fear from cavalry. The frequently expressed misgivings as to the flooding of frontier districts with swarms of hostile horsemen in the very first moments of war, in order to derange our mobilisation and to lay waste the country, are greatly overdone. Imagination may be fired and the heart-beat of enterprising guerilla leaders may be accelerated, but the success of such ventures remains always problematical. Bodies of cavalry counting many thousands may, certainly, become a real danger, though on account of their very numbers they would encounter many obstacles to rapid movement. If then detachments of Landsturm-men, which are readily assembled in thickly populated districts, appear on the scene, well armed, well led by capable officers, and posted within its own home district, and if they will only act with a fair show of confidence, the danger of " flooding " will soon be dispelled. The threatening flood is partially stemmed by the necessity of regular feeding of the large number of horses, which for reasons of security dare not be scattered, and experience will show that the volume of the stream which, so to say, succeeds in piercing the dam, is out of all proportion below the actual number of horsemen who crossed the frontier. The only exception which we can admit is that of sparsely populated, but naturally rich, sections of country, which yield ample supplies, such, for instance, as existed in North America at the period of the War of Secession.

In such enterprises on our theatres of war small boldly-led detachments will obtain quicker results by stratagem and rapidity than will great masses by force. We can only imitate the spirit of daring and enterprise displayed by the American horsemen ; the method of execution must, upon European soil, be totally different.

Our cavalry, for the most part, carries a good firearm. In 1870, too, it was not without one, for it promptly took up the chassepot rifle whenever needed. Now, however, it is being properly trained in the use of the rifle and for dismounted action, and has thus gained in independence.

It can not only defend itself better against surprises, more easily hold in check and more readily deceive,* the enemy than formerly, but is, above all, more capable of vigorous offensive action. If too much is not expected of its fighting powers on foot (because our imposing squadron, when dismounted, is at best only the equivalent of a handful of infantry), and if the cavalry also does not forget that its proper place is in the saddle, the reconnoitring and screening duties will be the gainer. This advantage, let us hope, will counterbalance the increased difficulties created during the last decade.

The saying of Frederick the Great, "*In war a good cavalry confers the mastery*," has lost its importance, in so far as the *rôle* of cavalry in battle tends to dwindle. *But at the moment an efficient and numerous cavalry force is still the best means of dominating movement.* As in certain games the player who has the first move has the advantage, so in war a like advantage will accrue to him whose cavalry shows itself superior, and who, consequently, more quickly appreciates the situation, perfects his plans more promptly, and opens the operations.

But it is not sufficient to have good cavalry, it must also be well handled by the superior authorities. These latter are really responsible for many mistakes unfairly laid at the door of the cavalry. Cavalry divisions must be allowed a proper measure of liberty of action, without slipping entirely out of the hands of the commander-in-chief. Whilst the masses of cavalry formerly were kept back, to be employed as reserves or in the pursuit of the beaten enemy, the tendency now exists to send them forward at once, on the first day, to a great distance in a certain direction. This, again, may produce the inconvenience of cavalry being wanting one day when most urgently required. The despatch of the squadrons to the front and the choice of the direction in which they are to proceed must also be in accordance with a definite plan

Success in reconnaissance depends greatly upon the char-

* That is, make the enemy believe in the presence of infantry.

acter of the orders given. The hackneyed phrase that the cavalry is to advance to discover the strength and position of the enemy, is perfectly useless; for this merely implies the natural duty of the arm. If, as often happens, it is instructed to discover the intention of the enemy, the commander really demands that it should perform the task which is really incumbent upon himself. Both cases betray a certain perplexity in the mind of the commander, and this will result in a halting kind of action. It is wisest to put to the cavalry simply the questions which it is most desirable for the commander-in-chief at the moment to have answered; viz., whether hostile encampments are met with in given localities, whether given towns are occupied, whether the enemy's advanced guard or his main army have reached a given line, how far the flanks of the enemy extend, whether on a given railway or road troops are being transported or are on the march, etc. Such commissions, which cannot be misunderstood, will bring in clear reports, from which the commander-in-chief can draw his own picture of the strength and position of the enemy, and divine his intentions.

Cavalry has now to meet a competitor in the field of reconnaissance in the cyclist. Indeed, during peace manœuvres the first authentic information of the opponent is frequently brought in by the wheelman who has rapidly sped forward. In the later phases, when obliged to evade approaching hostile patrols, the cyclists are again surpassed by the cavalry following in their tracks. The strength of the cyclists lies in the facility with which they cover great distances, from 60 to 120 miles, occasionally even more; their weak point is dependence on roads and weather conditions. The proper field for cyclists' reconnaissance is on ground beyond the power of cavalry to search out, owing to the necessity of avoiding either undue dispersion or excessive deviation from the main direction. Détours need not deter cyclists where it is a question of passing round the enemy's flanks, or even of gaining his rear, for purposes of observation; and they are tied, even less than cavalry, to the natural lines of retirement and communication. If employed by the superior authorities freely and independently, they will certainly be able to render most excellent services. The one thing to be avoided is to shackle them to the marching columns, because nothing is so irksome as slow riding or the leading of machines.

Cyclist sections of some strength can become excellent auxiliaries to reconnoitring cavalry, as they are able to reach important passages, bridges, mountain, forest and bottom defiles, localities not readily passed round, etc., more rapidly than the cavalry and irrespective of distance. They can also hold such points temporarily after the passage of cavalry and overtake the latter after the lapse of some time. Surprises and sudden attacks, likewise, will naturally come within their province in a country well provided with roads.* If the value of cyclists has so far not been appreciated so highly as will be the case in future, the cause must be sought in the still existing want of a sufficient number of uniformly trained riders.†

The captive balloon can be usefully employed in clear weather and still air for purposes of observation on the battle-field. It affords a range of view over ground hidden to all other observers. The approach of hostile troops will certainly be discovered more readily and timely in bird's-eye view than from the level of the ground, though the difficulties of communication with the earth have not yet been completely surmounted. In and around fortresses, where quiet and steady observation is possible, the employment of the balloon will probably be more profitable.‡ The method pursued in time of peace of rapidly conveying information simultaneously to all parts of an army by means of balloon signals meets with the objection in war that the enemy would soon discover the signalling code ; but the system is nevertheless worthy of attention on occasions of special importance.

An important means of acquiring intelligence is found in

* Cyclist pioneer detachments may also advantageously be attached to cavalry divisions and corps, particularly for the execution of demolitions, destruction of railways, etc.

† France took the lead in the formation of small cyclist companies, which will probably be employed, but on a somewhat larger scale, like the infantry detachments formerly carried on wagons. (Here the author makes a mistake ; the first work of this kind was done by our English Volunteers.—*Editor.*)

‡ Since this was written the rapid progress of aviation has made the use of the captive balloon exceptional. It has been largely superseded by the dirigible airship and the aeroplane for reconnoitring purposes. The observer is thus no longer placed at a fixed point. He can sweep over a wide range of country, reach a great height, and work in windy weather when observation from an anchored balloon would be impossible or exceedingly difficult.—*Editor.*

skirmishes and battles. Both sides come into prolonged contact and learn to know each other. Frequently the sole object of fighting is to obtain information, though this practice is very seldom justifiable. The advantage is, of course, pre-eminently on the side of the victor, because he remains master of the field, upon which he may find ample material for supplementing his knowledge of the enemy. The uniforms of dead or wounded soldiers inform him what divisions he has before him ; reports, note-books, papers of all sorts are found on the corpses, and sometimes even a vehicle containing official records is captured. In short, an action generally yields full information regarding the parts of the enemy's army immediately concerned.

In some cases this information goes further. A letter of recommendation from Gambetta, which the Irish officer, Captain Ogilvy, who was shot on November 27, 1870, carried on his person, gave the staff of the Second German Army a very valuable intimation of the next intentions of the Government of National Defence, which at that time, as is well known, planned an advance upon Fontainebleau for the relief of Paris. Of course, for such strokes of fortune a fight gives greater scope than marches and strategical operations.

But frequently the result of the fight is, in respect of the information obtained, far beneath expectations. The enemy's troops, after the battle has ended, disappear from view, and the thread of fairly reliable knowledge of the enemy, assiduously spun up to that point, is broken. The reason lies in the fact that the fight engrosses all attention, and constrains every sense of those engaged in it. And even those not engaged in it allow themselves to be too greatly influenced by its issue, instead of coolly pursuing their own way. Even though the main body of an advancing cavalry division be repulsed by a more powerful opponent, it does not follow that the whole chain of its patrols should retire with it. For the latter the very best time for making observations is while the entire attention of the enemy is centred in the combat.

The agency of spies may be of value during the period of preparation for war, when the ordinary channels of correspondence are still open, and when the immediate transmission of information is less pressing than during battle. During the progress of operations, engagements, and battles, only the latest intelligence is of value, and a spy is not capable of

furnishing this, since he lacks facilities for telegraphic communication with the party whom he serves. In order to make personal communications, he must make cautious détours, and will thus, in almost every case, arrive too late. If, however, operations come to a standstill, as in sieges and struggles for strong positions, he can resume his former part according to the rules of the art, gaining the confidence of a man of standing in the enemy's country, foisting on him a clever spy in the capacity of coachman or valet, and in that way giving the latter entry into the enemy's camp. Such tortuous methods in the present day are rarely of any use. As a key to the situation of the enemy, to the feeling of the people, the army, and influential personages, to the state of preparedness, the finances, etc., the detailed reports of clever spies may occasionally be very acceptable, but persons of the proper degree of education cannot always be found for this questionable service. Such persons will, moreover, frequently be obliged, for the sake of their own safety, to enter into relations with both belligerent parties, and thus, whilst we receive intelligence from them, we supply the enemy in return.

That the spy of romance, who on the evening preceding the battle arrives on a foam-covered horse to deliver to the commander-in-chief the "plan" of his opponent in minute detail, is only a creature of imagination, needs no further discussion, since we have learnt to know the nature of "plans of campaign."

Another important medium in the service of the intelligence department is the *press*, not only the great journals, but also the small local press. Of course, even the best informed paper will neither be able nor willing to make known the situation of its own country in its entirety. But here again the truth is sifted out from numerous petty details. Other flashes of light have often so far lit up the picture of the enemy's situation, that only a breath of wind is still wanting to rend asunder the last remaining film of mist. The presence of a high commander is mentioned, a letter is made public in which the writer mentions his corps and its station, or narrates an engagement, describing in detail all the circumstances, the regiments, and the commanders concerned. Each detail, though by itself quite insignificant, may yet serve as a valuable link of a complete chain of circumstances.

Add thereto the confiscation of letters, the stories of prisoners-of-war, the statements made by inhabitants or travellers, and safe and valuable deductions become possible. The national press cannot be sufficiently warned to exercise caution during a war. The hunger for news, with its possible pernicious results, must be suppressed with a strong hand, though also with due regard to public feeling. It would be better to appoint responsible men to edit the news items intended for general information, than by attempting to close all sources of communication to incite incompetent and irresponsible persons to independent action.* It is, at all events, not sufficient to regard the press with mistrust, but it is essential to direct its efforts into proper channels.

International intercourse has always, even in time of war, found its outlets. The weight of commercial interests cannot be under-estimated. The prospect of gain helps over many, otherwise apparently insurmountable, difficulties. Napoleon, who was perfectly well alive to the fact that the commercial world has always abundant private information, before the war, on September 3, 1806, ordered Marshal Berthier to have all letters coming from Russia opened in Augsburg and Nuremberg, in order to find out what was happening there. The telegraph facilitates, of course, all communications in a manner previously never dreamt of; it neutralises almost completely the delays due to circuitous détours. General von Manteuffel, on February 1, 1871, was still engaged in a hot action with the rearguard of the army of the East which had retreated by Pontarlier into the high Jura. On the morning of the same day a telegram was despatched from Berne to the Minister of the Swiss Confederation in Berlin, with the intelligence of the army having passed on to Swiss territory. It was forwarded to La Barre, near Dampierre,† the former head-quarters of General von Manteuffel, thence was sent over slippery mountain roads, a distance of fifty-five miles, by relays to his new head-quarters at Pontarlier, and arrived there in the night of February 2. It was the first confirmation of the fact that the enemy was relinquishing

* Colonel Blume, "Strategie," p. 126. "The best means of holding a fairly even balance between conflicting interests consists in the regular publication, by the military authorities, of any war news which need not be kept secret from the enemy."

† South-west of Besançon.

the struggle, after the mountain valleys had re-echoed far into the gloom of night with rifle volleys and the dull roar of artillery fire. News has reached the theatre of war with similar expedition by way of adjoining neutral countries. *Embassies, consular agencies in foreign countries* far from the theatre of war, can thus render good service to their country. The international telegraphic communications must be carefully watched.

Even the telegraphic facilities of the enemy have, under certain circumstances, been made use of within the area of hostilities. During the campaign on the Loire it was concluded, from certain indications, that appliances had been fitted by French Engineers to the German wires, and that messages were being intercepted, and shortly afterwards the same methods were successfully tried by the Germans. The artificial means of conveying information, by means of the heliograph, underground wires, balloon, pigeon or dog post, communications by means of bottles consigned to running waters,* etc., belong rather to the province of fortress warfare than to that of operations in the open field. The latter will in the future also be too mobile and changeful to afford much scope to such methods, though a temporary pause in active operations may occasionally facilitate their application.

It is extremely important to *organise a proper system of military reporting within one's own army.* The case may easily occur that the sum total of the information held by the troops generally is perfectly sufficient to form an idea of the enemy's situation, while still the commander-in-chief lacks the most essential intelligence.

To begin with, it is difficult for the inferior commanders in touch with the enemy to decide whether what they observe is of importance to the higher authorities. And then, the officer of a lower rank often holds an exaggerated idea as to the omniscience of the commander-in-chief, and erroneously concludes that he must be already acquainted from other sources with whatever information he could supply. In many cases also a person not directly charged with the duty of gathering intelligence may be deterred by a certain modesty, or the fear of being suspected of mistaken ambition. Besides, every one is sufficiently absorbed in himself and in his own

* By this well-known means Metz endeavoured to open communication with Thionville, which lies further down the Moselle.

particular business. He profits by the news which comes his way first of all in his own immediate interests and is apt to forget to pass it on. The hotter the crisis, the fewer will be the reports, because subordinate leaders will not find time to make them. Cases are not rare in military history of a superior commander eagerly awaiting news from his generals, and of these being in possession of the desired intelligence, which is nevertheless not forwarded. *It may be laid down as a rule, that every commander must make his own arrangements for obtaining any intelligence he needs.* This is not meant to imply that each on his own account should send patrols and officers to keep touch of the enemy, but rather that full benefit should be derived from the work of others. To this end communication between the several parts of the army must be carefully regulated and maintained. The commander-in-chief must continually send officers of his staff to the army corps, which latter, again, rely on their advance guards, their outposts, and their advanced cavalry. It is essential that these special messengers be free of all other staff duties, so as to be able to devote themselves entirely to the work of reporting. It has already been mentioned that it is necessary to entrust an officer at head-quarters with the control of this service, in order that it may not cease to work at the moment when both the commander-in-chief and his chief of staff are engrossed by doubtful points which claim all their attention. As a rule, success is not ensured by the lucky arrival of some particularly detailed piece of intelligence, but by the careful utilisation of many.

The labour of sifting and arranging the material, before submitting it to a preliminary critical examination, is evidently considerable. The grain of pure gold is generally concealed in a heap of sand. The service of intelligence demands extraordinary industry. When a balloon-post was captured and many thousand letters, written on tiny scraps of tissue-paper, fell into the hands of the investing army before Metz, it appeared at first sight as if nothing of value could possibly be found in them, as before being sent off all of them had apparently passed the censor. But when they had at length been sorted, and the names and addresses of the senders had been examined and compared, a fairly clear idea could be formed of the distribution of the enemy's camps within the area of the fortifications, and many valuable

deductions were made regarding the state of mind of the beleaguered.

Criticism must not be restricted to a mere verification of reports, but must extend to a classification of their contents according to their value. The knowledge gained in time of peace is at first still complemented by the records of ministers and country, and consular agents, till they break off at a certain point, and are replaced by newspapers and miscellaneous publications. Spies report as to the feeling in the country, and also give intimation of the intentions of the enemy, in which hearsay is usually blended with personal theories. The reports of the troops, especially those of the cavalry, however, first supply a somewhat firmer basis to the results obtained by other agencies, and confirm information received or indicate the degree of credence to be accorded to it.

Yet the most difficult thing still remains to be done, namely, to *turn to account* the information received. Military history usually only transmits items, the importance of which has become apparent after the event; and if they be read divested of the padding enveloping them at the moment of action, it often appears inconceivable how an error could possibly have been made. But we must bear in mind the whole existing tissue of deception, vagueness, and obscurity, in order to understand the difficulty of discovering the truth. The commander-in-chief who is generally obliged to base his own decision upon the confusing mass of incoming intelligence must, generally speaking, be guided by the law of probability, and in the case of the enemy, too, he must assume rational action. An inflexible clinging to intrinsic probability and persistent disregard of negative indications is apt to lead back to preconceived ideas, and may be the cause of fatal errors. How often does not the improbable occur in war! It should, therefore, always be deemed possible, never be lost sight of, and, in the event of repeated confirmatory indications, even be believed in. Firmness and elasticity of mind should hence exist in due proportion, although it is impossible to lay down rules of guidance for every turn of events.

The general in chief command must, above all, form a decided opinion of his own and adhere to it until doubts created by negative indications prevail and gradually evolve a better theory. The national characteristics of the enemy,

the personality of their commander, the sentiment of the moment, which may be supposed to exist in the opposite ranks—all these are things which must be taken into consideration, because they are factors constantly at work. A thousand matters must be considered, but without undue hesitation. A tendency to credulity is equally wrong as undue mistrust. Power of imagination, by whose aid to complete a harmonious mental view from rough outlines, and the faculty of psychological penetration, which enables one to fathom the depth of human minds, must go hand in hand with professional knowledge and experience. As the physician bases his diagnosis less on the patient's symptoms than on his general physical and mental condition, so also must the general be capable of forming his opinion of the enemy on a combination of signs. Prominent talents in this regard are a gift of nature; practice can only develop the *coup d'œil*, but cannot create it.

6. *Marches, Conveyance of Troops, and Quarters*

"When we march along o'er hill and dale in the winding lane of the wood, with loose extended ranks, and music and song fills the air, my heart expands, and I am filled with joyous hopes and anticipations. . . . It is, in truth, an æsthetic impression, that given by a passing martial host; but be it understood, I am not now thinking of our reviews. Distinct from the latter, we here do not behold rigid lines of troops, but in these open ranks we see displayed individuality in all its fullness, and together with the quietly progressing motion we are struck by much diversity and expression of life. Each individual with his accoutrements gleams through the green boughs of the young wood, and even when the man has disappeared from view, his arms still sparkle through the cloud of dust which rises high above the verge of the valley, and discloses to those afar the track of a hidden army. Even the toil bespoke by the exertion of the men in the ranks, with their guns and baggage, slowly mounting the hill, adds a happy touch to the picture. The impression of greatness produced by even a small troop of soldiers, banded together for a long and tiresome journey, to terminate on the scene of countless perils, combined with the lofty and sacred aim, which one and all pursue, lends to this picture, in my mind, a significance that deeply affects me."

In these words Clausewitz, in one of the letters of his youthful days, describes the march into war ; and every soul, able of sharing his sentiments, will feel the inner truth of this charming sketch. The sublime impression made by the gleaming columns when, to the rousing strains of music, they pass through stirring towns, and the inhabitants rush to the windows and doors or the curious crowd collects in the streets and hails the passing soldiery with jubilant shouts, cannot escape a mind even less poetic than Clausewitz's. The love of wandering awakes in the human breast, and the new countries which one learns to know, excite the fancy. Youth always gladly changes scene and mode of life.

Such exhilarating moments are, however, but rare breaks in the monotony of a day's march, and one is more apt to enjoy them when riding on a good horse at the side of a column, than when labouring along on foot in the midst of the throng.

Slowness and laboriousness are the characteristic features of the march of great masses of troops. That becomes evident when, after the music has ceased, the individuals are regarded face to face, and not from a distance, as in Clausewitz's supposition. Here a poor fellow is limping along by an extreme effort, the heavy knapsack on his back and the rifle on his shoulder, and we, too, seem to feel in our foot the pain caused by a chafing boot. There we observe another, his face bathed in sweat, and his wan features clearly showing complete exhaustion. Now and then a weary man is led to the side of the ditch and collapses. From hour to hour the column labours along more painfully ; men, horses, and vehicles all covered with dust which hardly allows of the eyes and lips being opened. The sun shows no pity, and inexorably darts its scorching rays against the sides of the hill along which the road winds, thus generating an unbearable heat. Only the head of the column still marches on with some measure of freshness ; the further back we go, the more wearily do we find all dragging along ; even song has ceased here. The longer the column and the more guns and heavy carriages accompany it, the heavier is the going, and the more frequently do stoppages occur, and many an involuntary halt is caused. The smaller the body of troops, the more easily and comfortably they march, and the quicker their rate of advance. In no respect does the fancy of the future com-

mander, who only knows war from books, stand so much in need of rectification as with regard to the slowness with which great columns on the march move. In spirit he directs them by the map, according to the inspiration of the moment, now here, now there, sees them anticipate the enemy in reaching and occupying certain important positions, deploy and proceed to attack, all this without any interruption. But, translating this ideal picture into sober reality, we find that the act does not, by any means, keep pace with the thought, but invariably lags far behind it. The columns advance with a consumption of time trying alike to patience and ease of mind, and the danger of the enemy being first to reach the longed-for goal seems to grow with each minute. To the enemy, not under direct observation as our own troops, our fancy lends wings, and we imagine to see him hurrying up with giant strides.

And then it becomes patent that the orders were given too late, and that the time allowed for the movement was under-estimated. But there are no means at hand for imparting to the great general mass of men the fiery ardour consuming their inexperienced commander. The heavily burdened infantry respond with indifferent mien to the urgent solicitation of the man sitting high on horseback, and scarcely step out more briskly while immediately under his eye, only soon to fall back into the old dragging pace. Experience has taught them that, were they to respond on every occasion to such an appeal with extraordinary effort, they would soon reach the end of their endurance. A whole command can only be brought out of its snail's pace with most infinite difficulty; only the roar of cannon will quicken the step, if the troops that hear it be brave. Very remarkable are the extraordinary diversities in marching performances, which cannot always be explained by difference of nationality and temperament of the soldiers. A march of nine or twelve miles, which on the map appears insignificant, becomes almost destructive in its fatiguing effect; whilst, on another occasion, double the distance is covered without any apparent hurt. Wind, weather, roads, internal disposition of the troops, the after-effects of past exertions,* practice, which here, more

* This was seen, for instance, in the march of the Second Army from Metz to the Loire. Although the marches were at first not long and were made in good weather, and upon good roads, yet considerable casualties occurred; for all the troops had, immediately before

than in any other operation of war, makes the master, and, lastly, the personal influence of the commander, are of influence. Where about fourteen miles are considered by us as a good day's work, for which the soldier under ordinary circumstances requires six, but under difficulties eight or even ten hours, his whole time thus being completely occupied, we find Buonaparte, when crossing the St. Bernard with his army, performing the same feat seven days in succession. Twenty-three, twenty-seven, or thirty-two miles were nothing extraordinary for him, moving a whole army corps in an easy country. In modern campaigns many instances of equal, and even greater, performances are on record.

On the afternoon of December 16, 1870, the 9th German Army Corps stood in readiness at La Chapelle Vendômoise, between Blois and Vendôme. Upon receipt of news that the German positions on the Loire were threatened, Prince Frederick Charles, about nightfall, set the corps in motion towards Orleans, distant almost forty-one miles; and this although part of the troops, before arriving at La Chapelle, had already marched nine miles, and then passed several hours on rain-soaked fields. The roads to Orleans were bad, the road metal cut up, and the meeting with convoys, which followed the second army, checked the advance. In spite of this the army corps reached Orleans at noon of the following day without any appreciable loss. Forty-six, forty-eight, and fifty miles respectively had been covered by the troops in from thirty-three to thirty-six hours, including part of the night spent in rest, as well as the halt at La Chapelle. One battalion which made the march could boast that it had not lost a single man; of 4000 horses thirteen had dropped. This performance can bear comparison with the best on record.

That an army which excels in marching enjoys great superiority over its opponent, follows from the simple fact that its commander is always in the position of being able to mass his troops more quickly and can thus attack with superior numbers. This would seem the origin of the saying

the capitulation of Metz, undergone a very exhausting and exciting time subject to many hardships. Although the exertions of the march were subsequently increased, yet the losses diminished, because the soldiers gradually recovered their strength, and regained the habit of marching.

"to beat the enemy with one's boots." During the battle, a momentary impetus may work wonders, but not so during a difficult and protracted march. It is difficult to urge forward a tired-out column on the march, even by the application of severe methods. Once a few hundred men are lying in the ditches, the possibility of punishment ceases, and those so inclined may throw themselves down and remain behind with impunity. A body of troops is rightly judged by the number of stragglers which it leaves behind during a fatiguing march, and the value of internal discipline is clearly attested by proficiency in marching. The importance of the individual factor is exemplified by the many instances in which armies, in other respects inefficient, after a series of defeats suddenly develop a marvellous tenacity and rapidity in marching. The fear of the pursuing enemy, the instinct of self-preservation, in such moments rouse each single soldier, and thus promote collective power of endurance.

Systematic practice in marching in time of peace is essential, and in an army inspired by a lively sense of duty constant opportunities present themselves in its frequent tactical exercises and its marches to the manœuvre ground or to the rifle range. But special exercises, in which long distances are covered solely in order to practise marching, must not be omitted.* It is true that owing to the nature of the organisation of our national armies the men with which we enter upon a campaign are not, for the most part, those actually in the ranks during the period of peace immediately preceding. Yet the assertion so frequently heard, that it is, therefore, not worth while to accustom the troops to hardship is a false one. The purely mechanical aptitude is certainly lost very quickly, directly the soldier joins the reserve and resumes the life of the ordinary citizen, but the tradition of great achievements is an important factor. An exertion which, by previous experience, a soldier has learnt to regard as anything but extraordinary, he endures far more easily than one quite strange to him. If the fatiguing exercises and the long marches in time of peace were discontinued, the army would lose by degrees the standard for measuring what human nature can endure without prejudice, if only a little good-will be present. The demands are lowered year by year. Commanders, as

* In order to maintain the interest of the troops, such practice marches should, if possible, be combined with short tactical exercises

well as soldiers, gradually accustom themselves to regard a moderate performance as something great, and it will at last become so purely through the effects produced on those concerned. If, perchance, during the heat of summer a casualty occurs at one of these fatiguing practices, and a young man in the prime of life falls a victim to sunstroke, or dies in consequence of over-exertion, numberless voices are generally raised demanding the suppression of such exhausting exercises. People do not reflect how necessary it is to give individual experience to every soldier, which, later on, will enable him to face the inevitable hardships of war with quite a different spirit than if he were a complete novice, and will help him to endure them more readily. If everything were to be discountenanced in peace by which an accident might possibly occur, soldiers generally would be greatly sinned against, since they would be enfeebled and rendered inept for war, the chances of losses being doubled at the same time.

The period of long strategical marches, which formerly afforded the best means of making good lost opportunities, is a thing of the past. The troops are often marched immediately from the railway stations against the enemy, and there is no time for training the troops thoroughly in marching, before the commencement of operations. For that reason the first demands made upon them must not be excessive. If the 9th Army Corps had been required to perform the march already mentioned in August in the Palatinate, when the war first began, it would perhaps have lost a third or even half its effective strength. Exceptional efforts may not be exacted till after the war has lasted some time, and abundant good food and exercise have strengthened the muscles, and the weaklings have been weeded out.

Much, of course, depends upon the proper arrangement of marches, but it would lead us too far to enter into details, and we are, moreover, concerned only with marches in relation to the higher strategy.

The soldier's fatigue on the march is caused less by the fact of his having travelled a certain distance, than by the length of time he is kept under arms, fully accoutred. Fourteen, eighteen, twenty-three, or even twenty-eight miles is not a great day's march for a good walker. Let us only think of the holiday tours, made in youthful years through a mountainous country. That even forty-six miles can be

covered on foot in a single day has been proved not merely by professional runners, Albanians and Spaniards, but certainly also by German travelling journeymen and soldiers on leave, eager to reach home quickly. But strolling along in light dress, free and easy, is something entirely different to marching in the ranks in uniform and carrying a full field-kit. The soldier must not be under arms but for the actual time necessary to cover the required distance. All unnecessary standing still and waiting must be avoided. This results in great variety in the orders to be issued. In the case of a large encampment the head of the column must start several hours before the last battalions, and it would be wrong to call the whole of the troops under arms at the same time. If the troops have been scattered the preceding night among the villages, and it was desired, as was formerly done, to assemble them before the march in one place, the troops intended to bring up the rear of an army corps would remain stationary for from five to six hours. Hence the troops are first combined into small groups, according to the position of their respective night quarters, which groups then issue from cross-roads upon the highway and take their appointed places in the marching column, just as several affluents eventually form a big river.

Careful consideration in the arrangement of the marches is also of influence upon the *morale* of the troops. Every extra toil which the plain mind of the soldier recognises as unnecessary, annoys him, whereas he readily submits to a necessary evil, be it ever so much greater. His feeling in this matter is, as a rule, correct, though in no wise regulated by a fixed measure. Blücher's well-known saying, "Night marches are more to be dreaded than the enemy," can lay no more claim to universal validity than any other maxim of this kind. Given bright moonshine, troops march upon good roads even under any difficulty and almost as rapidly as by day, and even under unfavourable circumstances good troops have always accomplished night marches without detriment. The campaigns of Frederick and Napoleon furnish many instances of this. The 9th Army Corps, on the 16th December, marched late into the night, in order to accomplish four or five additional miles. The instance of the troops of General v. Werder has already been quoted; and how much more a smaller body of troops can perform in night marches has been proved by Commandant Bernard, when he marched with his "Chasseurs des

Vosges" from Lamarche to Fontenoy, close to Toul, in order to blow up the local railway bridge. He marched nearly 25 miles, upon bad roads, often even across country, and through woods and over hills deeply covered with snow, with 1100 men, in the night of January 18 and 19, 1871, halted the next night, during which he was, however, alarmed, and then marched in the night of the 20–21st, with 300 men, and in the night of the 21–22nd as much as 37½. Besides this, in this last night, he drove off the small guard, and, after several hours' work, blew up the bridge. He was, moreover, under circumstances of great difficulty, compelled twice to cross the half-frozen Moselle. Under certain conditions it will be advantageous to march by night, in order to avoid the excessive heat of the day. This was done repeatedly by Osman Pasha in 1877, on his march from Widdin to Plevna, and is the usual practice in southern latitudes.

The long prevailing general tendency to regard a night march as a mortal sin from the military point of view is beginning to subside. In the wars of the future, in which great masses will have to be moved within a narrow space, and several corps will have to use the same road, night marches will become inevitable.

Under ordinary circumstances care must be taken that the soldier can take his full share of sleep, which he needs most urgently in view of the great physical exertions of war. Far worse than an occasional night march is the late issue of orders, by which the troops are regularly kept awake until late in the night. The same is true of an unduly early start. The so-called soldier's rule, that marching from the night into the day is better than the reverse, is false. The first means that no one has previously enjoyed sufficient rest; the second that, with some exertion, the night-quarters are reached.*

Much has been said in text-books about protection on the march; but a body of troops on the march needs but little protection, since, being in motion, it is always ready to fight.

* Meckel lays down the rule, that in the case of large bodies of troops only in special cases the start ought to be made in the summer before six and in the winter before 8 a.m. The starting time of the several companies, squadrons, or batteries will even then be at a quite early hour, since they have, first of all, to join their units, and then one of the larger groups of their corps or division.

Reconnoitring is the proper expression. The enemy is being looked for, and intelligence of him is needed. We know that the advanced cavalry divisions provide for this. It is customary, moreover, that a special advance guard of all three arms should precede the marching columns, whereby the tranquillity of the main body is assured. Otherwise, if shots are fired ahead, if a check occurs, or it is reported that the enemy is close at hand, restlessness and excitement will spread through the whole column, commanders and soldiers be agitated, and the march interrupted. If an advance guard precedes the troops at the distance of half an hour's march, its duty consists in dealing with incidental occurrences during the march, and this produces a pleasant feeling of security in the main body. All know that an impediment beyond the power of the advance guard to remove must arise before they are themselves engaged.

An advance guard must, however, be comparatively weak. It was formerly the rule to employ a third or fourth of all the troops in this duty, a proportion difficult of justification, since the commander-in-chief would part with a considerable fraction of his troops, and create divided authority. The greater part of the advanced guard should always consist of cavalry,* even where divisions of mounted troops are in advance of the column. The duties of the latter are so varied and onerous, that they will not often be able to provide also for the immediate security of the troops in rear, and the duty of keeping up communication with the infantry under all circumstances would be too exacting. That duty necessitates the employment of cavalry with the advance guard, which obtains information from the cavalry in front and quickly passes it to the rear. In many cases where the distances are great, the ground is difficult, or the danger of frequent interruption of the march exists, this advance guard cavalry will be made independent, under the immediate control of the supreme commander with a view to its being pushed farther in advance. It will then be in a better position to guarantee the undisturbed uniform advance of all the troops in rear,

* In high or inaccessible mountains, or in particularly impracticable and trackless country of another type, in passing through long and difficult defiles, in passes or upon causeways, where it is difficult to move on horseback, and where large bodies of cavalry cannot manœuvre, an exception will, of course, be made and infantry detailed to form the advanced point.

than if it were to leave its own infantry on each occasion in order to proceed farther to the front.

Some artillery will always be a useful element of an advanced guard, since that arm is best able to determine whether an obstacle which the enemy causes is seriously intended. Even dismounted horsemen advancing with carbine in hand are easily stopped at a barricade, the edge of a wood, or a village, by a handful of determined enemies, whilst a few well-directed shells from the artillery will soon dispel the phantom. An approaching body of hostile troops can also soon be brought to a halt by a field battery and forced to disclose its strength. It is frequently objected to the detail of individual batteries that it entails the breaking up of an artillery brigade. Though this objection is generally justifiable, still it may be carried too far. The advance guard battery will often facilitate the coming into action of the other batteries. In the case of very large advance guards, far in front of the main body, or charged with an independent mission, it may be advisable to detail an entire brigade of three batteries, thus avoiding the necessity of breaking up. On the other hand, weak advance guards without any guns are suitable in the immediate proximity to the enemy, when fighting is anticipated, and it is desired to avoid becoming definitely committed by the premature action of artillery.

The advance guard requires only a very small number of infantry in proportion to the strength of the whole force. Formerly it was held that it must possess sufficient to give time for the long column in rear, the main body, to deploy. But *the experience of recent wars has taught us, that the main body never, as a rule, completed its deployment because of the urgent need of assisting the advance guard, already struggling with a superior enemy, with the result that the troops had to be launched into the fight by driblets as they came up.* This was quite natural. Whether the resistance which the advance guard meets with be weak or strong cannot be definitely determined at the first moment. The commander of the advance guard who halts immediately this appears doubtful, would continually impede the march, and, should it appear that but a weak force was facing him, he would be bitterly reproached. Every good soldier would rather be blamed for too much audacity than for undue caution.

If the advance guard is likely to meet some special task—

if, for instance, it be intended to seize a certain position—it must, of course, be made stronger, and by its composition be rendered independent of outside support.

Usage in the German army has established the principle of an advance guard for a division consisting of one infantry regiment, several squadrons and a battery, with pioneer, pontoon, and bearer detachments. In the case of an army corps, it is an infantry brigade, to which is added the divisional cavalry of one or two divisions,* three batteries, and the necessary detachments of auxiliary services. These form the model advance guards, as prescribed by text-books. They are equally capable of gathering intelligence as of performing special duties, and of fighting independently. Their detachment, at the same time, diminishes the difficulties of the march of the main body. Hence they may aptly be described as "ever ready advance guards," and, in this respect, they may be accepted as models. In war, however, conditions will so rarely be of a normal type, without some special circumstances affecting the constitution of the advance guard and rendering it advisable to depart from the standard pattern. These normal advance guards have, moreover, the clearly apparent disadvantage that in the case of a division, a brigade, and, in that of an army corps, a division is broken up, and it is a fact that these same advance guards are most apt to take the decision as to whether battle shall be given or not out of the hands of the generals in supreme command.

The time requisite for deployment is most readily gained by pushing the cavalry far ahead, so that the news of the approach of the enemy is obtained sufficiently early, and the decision as to when and where the deployment shall be made can be formed in time. In case of need, as already mentioned, the planting of a few batteries, which compel the enemy by a brisk fire to deploy, is a better means of gaining the requisite time than an engagement with a strong advance guard of infantry. The former does not commit us to anything, while the latter usually compels us to accept a decisive battle.

In marches in retreat, when it is desired to avoid battle, strong rear guards are necessary in order to check the pursuit where the ground favours such action, whilst the main body remains in motion, and does not interrupt its march. But, in

* With the exception of certain squadrons left behind with the main body.

the case of the rear guard, a serious engagement is also an evil, because it renders its further retreat difficult, is apt to entail heavy losses, and may even compel the main body to retrace its steps and do the very opposite of that which it is its purpose to do.* Thus, in the case of the rear guard too, the artillery plays an important part, is, in fact, almost the chief arm. Its range and the tremendous effect of its projectiles is the best means of keeping the enemy at a distance,† which is the main task of every rear guard. It will be profitable to temporarily assign to it a relatively large number of batteries from the artillery of the main body.‡

The principles governing the formation of advance and rear guards also determine the order in which the troops follow each other in a marching column. Part of the artillery, that is, the arm invariably required in the first stage of a battle, naturally follows next to the cavalry. But the fear that the latter might be driven in and the pursuing enemy hurl himself against the defenceless batteries, leads to the practice of allowing at least a small body of infantry to march in front of the artillery. This is also necessary to enable the cavalry being detached from the advance guard in order to proceed farther to the front independently.

The whole of the artillery is not, of course, placed so far forward, as otherwise the infantry in its rear would arrive too late upon the scene of action. The corps artillery of an army corps, which itself in the marching column takes up about 4½ miles, cannot, on that account, be interposed in a division, because the arrival on the battle-field of the infantry marching behind it would, in that case, be retarded quite an hour, and the commander of the division would have to hold out during that time with only one-half of his troops. It will, accordingly, be placed between the two divisions of the army corps, sup-

* As a rule it is only towards nightfall that the rear guard may fearlessly engage in serious fighting, since then the enemy lacks the time to make his superiority felt. It should not, however, be forgotten that in our latitude darkness does not set in suddenly, and an active enemy can do a great deal even in the dusk.

† The longer it holds out, the more effectually does it, on this occasion, fulfil its *rôle*. The danger of losing a few guns must be disregarded, and never become a reason for premature withdrawal.

‡ If no longer required by the rear guard, they can, on good roads, increase their pace and rejoin the main body, which has meanwhile marched off, and thus will not even lose distance.

posing the whole corps to have only a single road upon which to march.

Clausewitz says: "The destructive influence of marches is so great, that it may be ranged side by side with the action itself, as an independent active principle." This is undoubtedly correct. Thousands are constantly marched to death, even when every precaution has been taken. Napoleon, in 1812, on his march into Russia in fifty-two days, during which only 320 miles were covered,* lost by disease and straggling nearly 100,000 men. Bad discipline was probably a contributory cause, but, apart from this, the losses on the march would in any case have been very great. Even if those missing from a column are not dead, still they are, as a rule, lost for the rest of the campaign, overfill the hospitals and quarters on the lines of communication, and are a great burden.†

If the usually accepted task, according to which an army corps in a single day only advances about the length of its own marching column, may, in special cases, be materially exceeded, the general, on each occasion, will have to consider whether the probable loss will be outweighed by corresponding successes. Forced marches to catch up with a retreating enemy, such as, for instance, might take place on an Eastern theatre of war, will, on account of material losses, probably become equivalent to a defeat. They will even produce a deleterious effect upon the *morale* of the troops, since they arouse the consciousness of having made a supreme effort in vain.

Besides marches, the transport of troops plays an important part in modern times. Formerly it was only practised by sea. Napoleon, who knew how to make everything possible, in 1805 and 1806 transported his Guards, and, in 1814, the troops returning from Spain, on waggons. They thus covered about forty-five miles per day. In our days, as we have witnessed, millions are conveyed by rail to concentrate on the frontier.

* Calculated in a straight line.

† The formation of companies from stragglers for the purpose of garrisoning places in the rear of the army, which was ordered by Prince Frederic Charles in 1870 in the Second Army, proved a success. By this means troops were saved which otherwise would have had to be taken from the army, and the rigorous guard duty to be performed aroused in those left behind the desire to rejoin the army as soon as possible.

After the outbreak of war, the transport of troops by rail, if on a large scale, will meet with many difficulties. The lines are fully occupied in transport work of all kinds, while the staff of officials has been weakened by the recall of reservists to the colours. The exertions during the period of the concentration are generally followed by reaction. The rolling stock becomes scattered, the proximity of the enemy is productive of unrest, and the performances may easily fall below expectation. The transport of reinforcements from provinces not threatened is easier than the movement of troops near the front of the armies, where everything is overcrowded. Since, however, the speed of railway trains makes little of détours, enabling us to discard overcrowded lines in favour of those free from undue pressure of work, we may always reckon confidently upon our ability of moving large masses of troops in an emergency. The defender naturally reaps the greatest benefit in this respect on his own ground.

During the campaign on the Loire, in the period from 7 o'clock in the morning of October 27, 1870, to 9.20 p.m. on October 28, 28,000 infantry of the 15th French Army Corps were transported from Salbris, in the Sologne, *via* Vierzon and Tours, to Mer, near Blois and Vendôme—that is, from the left to the right bank of the Loire—without the movement having been perceived by the German troops. By 8 a.m. on October 29 they were followed by sixteen batteries, two regiments of cavalry, ammunition columns, etc. In November of the same year, 40,000 men of all arms, under General Crouzat, travelled in eighty-eight railway trains from Besançon, on the Doubs, to Gien, on the Loire, in the space of three days. A report of this movement, too, did not reach the German head-quarters till after the corps had reached its destination. Sometimes, during the Loire campaign, French military trains were despatched at intervals of ten minutes, or even in quicker succession. On the other hand, the attempt made to rapidly convey the army of General Bourbaki, at the end of December, 1870, from the Upper Loire to the valley of the Doubs came to nought, owing to the want of the necessary preparations and of unity in the command. Two army corps and the army reserve, consisting of a division, required seven days to entrain, and ten days altogether were occupied with the whole journey, which it was hoped would be performed in half the time. A corps which subsequently

followed the army required the period from January 4 to 16 to arrive at the Upper Doubs, near Belfort, from Nevers, because, in the interval, an abnormal congestion of traffic had been caused by the meeting of transports of troops, war *matériel*, and supplies. It would have been wiser to have resorted partly to marching than to insist upon utilising the railway exclusively, particularly the single line along the Upper Doubs. The existing small railway stations rendered detraining difficult; in the hurry of the moment the laying of temporary lines and sidings was impossible in the narrow valley between the river and the walls of rock.

Still less will the attacker in the enemy's country be able, during the operations, to think of transporting troops on a large scale, even though he take every pains to restore the railroads within the area occupied by him, for traffic.* They will, as a rule, only suffice to convey to the army its necessary supplies of provisions, ammunition, reserves, etc.

The advantage which railway journeys possess over marches on foot is clear from the fact that, whilst for the latter about thirty-six miles is regarded as the normal performance for twenty-four hours, a train of moderate speed covers 400 miles in the same time. Owing to the loss of sleep the fatigue will perhaps be somewhat greater in the case of the railway

* The following instances of the utilisation of railways in an enemy's country during the French war on the part of the Germans may be cited. The 14th Infantry Division, which, towards the end of the year 1870, besieged the fortresses on the northern frontier of France, was transported thence by railway to Châtillon-sur-Seine in the period from January 7 to 14. On January 14 the combatant part of the division was concentrated at Châtillon. Then followed the train and the various columns.

After the fall of Strassburg the Landwehr division of the Guards was conveyed to the army before Paris. It began to entrain on October 7, was obliged to take the very busy line *via* Fourard, and did not arrive in Nanteuil till between October 10 and 19.

The 2nd Army Corps was similarly conveyed from Metz to Paris. The 3rd Infantry Division, consisting of ten battalions, a squadron of cavalry, four batteries, a company of Engineers, a detachment of the Hospital Corps, a field-bakery column, a field hospital, a provision column, and 120 other vehicles, completed the movement in twenty-four railway trains in the period from November 4 to 8. The 4th Infantry Division began to entrain at Pont-à-Mousson at noon of October 26. On November 6 the combatant part of this division had, with a detachment of the Hospital Corps, a field hospital, and the requisite columns, assembled at Longjumeau. A part of the corps marched to Paris on foot.

journey than in that of the march ; but it should be remembered that troops, after leaving the railway train, can at once do a moderate march, and, after sitting so long in the wagons, will generally hail the prospect with pleasure. The difficulty in transporting large masses of troops by rail consists more in entraining and detraining them than in the actual conveyance from one point to another. In the case of single lines of rail, which have no separate metals for the returning trains, a block in the traffic very often arises, and therefore their capabilities must not be overrated, and they must not be depended upon with the assurance justified by double lines. As a rule, twelve trains a day is regarded as the maximum performance of a single, and eighteen a day of a double line. Colonel Blume, after the experience of 1870–71, considers it advisable to assume only eight and twelve trains respectively instead of the figures quoted, and by adopting this suggestion we would certainly be on the safe side. It represents the average performance of those of the French lines of the slowness of which there were so many complaints in 1870.

Wherever circumstances allow, railway transport will be preferred to the march, as the casualties due to marching will be avoided by railway conveyance. In every case it is worth making an exact calculation as to whether the goal will soonest be reached in one way or the other. Under ordinary conditions an army corps requires on a single line eleven, and on a double line seven, days in order to get under weigh with all its *impedimenta*. On foot, in eleven days it can cover nearly 140, and in seven days about ninety miles. It thus appears that an army corps as a whole will not gain time unless available railway tracks are longer than these distances. But very often it is only necessary to have a part of the forces quickly at a given point, and they are then sent ahead by rail, while the rest follow on foot. Both methods of transport may often be combined with advantage, the infantry being conveyed by rail, whilst the artillery, cavalry, train, and columns march at a somewhat accelerated rate. If the nature of their eventual mission at their destination requires it, some artillery and cavalry accompanies the infantry. On the other hand, the marching portion of the army corps is accompanied by some infantry details to ensure greater security.

The extraordinary importance of railways for the feeding

of armies and the supply of men and *matériel*, as well as for the movements of troops, will always induce the invader of a country to convert them as quickly as possible to his own use. The repair of destroyed railways proceeds as the army advances. Temporary connecting lines, like that laid in 1870 between Remilly and Pont-à-Mousson for the purpose of turning Metz, will in future be constructed to a greater extent than ever. Railways are now absolutely indispensable for fortress warfare, since modern siege equipment cannot, where the distances are long, be moved by road. Irrespective of the weight of the guns, the amount of *matériel* is so great that, for instance, the arrangements for its continuous transport over about ninety miles would absorb 20,000 horses and 20,000 men. As the daily quantity of ammunition expended during the siege of a great fortress amounts to about 7000 to 8000 cwts. the utilisation of railroads is absolutely essential, for a continuous supply of such a weight of metal could not possibly be carried by waggon on ordinary country roads.

The transport of troops by sea, compared with conveyance by rail, has not made much progress, the rapid general development of oceanic traffic notwithstanding.* The ship-

* It should be borne in mind that European conditions only are in question.

During the North American War of Secession the transport of troops by sea played an important *rôle*. The Army of the Potomac, under MacClellan, 80,000 strong, was conveyed by sea between March 17 and April 4, 1862, from Alexandria, on the Potomac, to Fort Monroe, on the James River. The wealth of the Americans in means of transportation, and their energy in overcoming technical difficulties, rendered this achievement possible. In comparison with this the transportation of troops by sea during the Spanish-American war of 1898—to Cuba, Porto-Rico, and the Philippines—seems quite insignificant, whereas the Chino-Japanese war produces examples of activity on a much larger scale.

The Second Japanese Army (43,000 men, 3700 horses, 24 field, 24 mountain and 30 siege guns, with provisions and forage for two months) was carried to the coast of the Liao-tung peninsula, north of Talienwan, in the time from October 16 to November 7, 1894. The departure from Japan took place in two divisions of eighteen and nineteen ships respectively, with an aggregate tonnage of 73,000 tons, on October 16 and 18, the embarkation having taken only three days. The disembarkation, however, was greatly retarded by the unfavourable condition of the landing point.

A similar feat was performed by the expedition for the capture of Wei-hai-wei, on which occasion the 3rd Division—25,000 men, with

ment of the allied forces from Varna and Baltchik to the Crimea, in the early part of September, 1854—63,000 men with 207 guns being carried in a fleet of 330 vessels—still holds the record of modern times. The preparations for this huge enterprise could, however, be made deliberately, and all risk of interference on the passage was absent.

It is true that the speed of freight steamers approaches that of a moderately fast railway train; but no State can keep on foot fleets of transports sufficient to convey whole armies. Even for the transport of a single army corps, only France possesses, in time of peace, an adequate number of public transports. All Powers are accordingly obliged to press into their service merchant ships, mail boats, and other steamers belonging to private owners. But the great inconvenience exists that all these ships require a time-absorbing adaptation of their interior fittings so as to make them suitable for the reception of troops. Tables, benches, and clothes-racks must be fitted, hospital accommodation, kitchens, etc., arranged.

Embarkation and disembarkation is a difficult process. The great steamers, each of which, for instance, is capable of accommodating a battalion, have such a lofty deck that horses and boats can only be got on board by means of cranes. The smaller steamers, such as ply in the Baltic, on the other hand, have not sufficient accommodation. A single infantry division, with the necessary complement of columns and train, which, owing to their independent employment, are indispensable to them, would require nearly fifty of such vessels, whilst a like fleet of great transatlantic vessels would contain an army corps. If, however, the specifications as to troop accommodation be less strictly enforced, and the usual anxious care as to sanitation, prevention of accidents, and general comfort be somewhat relaxed, much more may be done. During the war of 1877–78, as also during the Turkish mobilisation in 1885–86, the large 30,000-ton steamers of the

seventy siege guns—was landed in midwinter (end of January, 1895) at Yung-cheng in the Shantung peninsula.

Japan had carefully organised its oversea transport service, a special section of the general staff being charged with it exclusively, while all the vessels of Japanese shipping companies were placed by law at the disposal of the authorities in the event of war. Sixty-nine vessels of an aggregate tonnage of 123,000 tons could thus be confidently relied on at any moment.

Austrian Lloyd took on board, for passages of several days' duration, as many as 3500 infantry, 100 to 150 horses, large numbers of officers, and all kinds of *matériel*. Exceptional results, such as the transport of Suleiman Pasha's army (38 battalions, with 3 or 4 mountain batteries) from Antivari to Dedeagatch, cannot be obtained by any other means. The Pasha commenced his embarkation on July 16, and part of his troops are said to have been landed at the mouth of the Maritza as early as the 19th.

When harbours are not available, each ship requires 300–400 yards of coast, for purposes of disembarkation, a fleet of transports with an army corps, about fourteen to eighteen miles. As suitable landing-places of such extent can rarely or never be found, the process of discharging must be effected by degrees. This also necessitates the transhipment to smaller vessels, barges and lighters, in order to pass through shallow waters which are still too deep for wading. The caprice of the weather makes all calculation as to time impossible; it may entirely prevent a landing, and the storm may even cause a catastrophe. One need hardly say that great squadrons of transports are very much exposed to hostile attacks, and the danger is greatly augmented by the sinister torpedo. It is essential to secure absolute command of the sea before the transport of troops by sea can be undertaken with any degree of safety. It may finally be remarked that troops conveyed in this manner play only an insignificant part in a war on the great scale on which it is now conducted. That the exact opposite may obtain is certainly indisputable, in proof of which we will consider the case of Constantinople. With the aid of the mercantile marine of the Black Sea, Russia would be enabled to embark simultaneously a force of 25,000 infantry, 1000 horses, 60 to 70 guns, and all requisite details. This represents a quite respectable force, well able to attempt a *coup de main* against the Turkish capital, the more so, as a second contingent of similar strength could follow in from six to eight days. We are, however, aware that the local conditions favour landing enterprises in a manner not to be repeated in any other part of the world, for which reason no general deductions are practicable.

We now come to the objection that the cost of transport by sea is great out of all proportion. Only England, by reason of its situation, its wealth, and the number of its State and

privately owned ships of the greatest size, is in a position to perform anything really great in the way of transporting troops and employing them across the seas. Other Powers must confine themselves to exceptional cases, in which there is no choice. In this category, France enjoys a considerable superiority over other countries.*

River navigation may be of great service for the conveyance of infantry. It will especially be utilised for the transport of provisions for the armies. Frederick the Great, in his various campaigns in Bohemia, regarded the Elbe as his main line of communication. The head-quarter staff of the Second Germany Army, in July, 1870, while the strategical concentration was still in progress, organised a flotilla of six steamers and numerous lighters, to serve on the Rhine, between Worms, Mayence, and Bingen, as a moving magazine. The vessels were filled up by purchases made in Holland (which, however, soon closed its frontier), on the Lower Rhine, and even within the area of concentration, as well as from the available stores in the fortresses of Coblentz, Cologne, and Wesel. When the rapid advance of the armies into France took place, the ship's cargoes were discharged into the great magazines in Bingen and Worms.

A question inseparable from the consideration of marches and transport is that of quarters. The soldier who, after a fatiguing march, finds good quarters, rapidly recruits himself, and gains strength for the following day ; whilst, if bivouacked in the open field, exposed to wind and weather, he would, perhaps, have become incapable of continuing his march. A prudent regard paid to the quartering of the troops is the best means of counteracting the chance of casualties on the march. We have now arrived at a pitch of civilisation which permits us no longer to regard the wood as our night quarters and the moon as our sun.

If the troops, immediately on the outbreak of hostilities, were to be collected in camps, they would soon be decimated without a single battle. Let us only reflect how much our troops suffered during the first rainy days of August, 1870. These experiences have led to the reintroduction of light tents, which afford some shelter against the weather, without

* In February, 1871, the 22nd French Army Corps, 18,000 men and en batteries strong, was, in a short space of time, conveyed by sea oute from the Northern theatre of war to Cherbourg.

encumbering the baggage column.* Nevertheless, camping in the open still remains a drawback in our latitudes during the greater part of the year. Although not to be shirked in case of necessity, still, in spite of the new equipment, an endeavour should be made to billet as many troops as possible, and as long as practicable. This is particularly important in the first stages of a campaign, when so many things require adjustment, and the men themselves have to accustom themselves gradually to camp life.

In the Western hemisphere, at all events, the worst quarters are always better than the best bivouac. But bad quarters are nevertheless prejudicial to the condition of an army, and to avoid them is not to be characterised as effeminacy, but rather is enjoined by very rational considerations of health.

He who has seen war knows how rapidly the means of existence become exhausted in the path of an army. The overcrowded quarters afford no sustenance by day, no rest by night. A wide distribution of the men is therefore necessary, and the affluence, occupation, and mode of life of the inhabitants must guide the decision. In the open country, where agriculture is the sole occupation, a billet for one man to every soul is the general rule, if the quarters are to be comfortable. In the case of manufacturing towns, industrial villages, mining districts, and large towns, an exception must of course be made. Berlin, with its approximately two million of inhabitants, would never be able to accommodate a corresponding number of soldiers, whilst a fairly well-built village can shelter even more than its proper population. Under average conditions an army corps of the usual strength requires thirty to forty square miles of country, which is approximately the square of the length which it takes up on the march without its train.

Bivouacking in the open certainly makes it easy to set the reposing masses again in motion. A quarter of an hour after the order has been issued the movement can commence.

* Only some few European armies, such as the Turkish, have retained even for use in times of peace the old pattern tents, which require to be carried on pack animals or wagons. The troops use them either because other quarters are not available, or because they are rightly considered more sanitary than the neighbouring habitations. In winter-time double-walled tents are used, which afford the required protection against cold.

Much time will be saved by commencing the march on a broad front, so that it will not be necessary to form a column of march. Troops arriving in driblets from scattered districts would be obliged to form up first of all. In bivouacking, moreover, the marches to and from quarters are saved. But all these advantages will not, except under special conditions, compensate for the disadvantages of the bivouac.

One of the latter is that troops in camp are much more readily discovered by the enemy and their strength ascertained than when they are distributed in quarters. On a dark night the reflection of great bivouac fires can be seen for many miles, while in daylight, especially towards evening, the smoke can be observed from an equal distance from any fairly elevated position.* Still, the lighting of fires must not be forbidden, except for very special reasons, lest the troops suffer intensely.

On the possible theatres of war in Western Europe there will usually be employed a single method of quartering the troops when once operations are in full swing. On the completion of the day's march the troops will be immediately distributed over every locality within reach, with utter disregard of rules, billeting tables, or statistical data, and each unit will make itself at home in some village. Those who cannot find quarters by any means will remain outside, pitch their portable tents, or use them to screen off the wind, construct shelters of brushwood or straw, and, as a last resource, may even seek shelter under doors, boards, etc., leaning against the walls of houses or gardens. The waterproof sections of shelter-tents again come in handy for roofing airy habitations of this kind.† The term "town encampment" or "town bivouac" (*Ortschaftslager* or *Ortsbiwak*) has been coined to describe this type of lodging, and has eventually

* From the church tower of Pithiviers, at the end of November, 1870, when the sun was near the horizon, the smoke of the great French camp at Gidy and Cercottes, before Orleans, could be discerned, although twenty-three miles distant.

† It has been found that shelter-tent sections can be used in the construction of floats for hurriedly improvised bridges. They may, for instance, be stretched over light packing-cases to make them watertight, so as to allow of planks being laid down. If stuffed with straw, reeds, or hay, they will retain buoyancy and bearing power for a fairly long time, and may be employed in the construction of rafts, similar to the "keleks" of the East, which are made of inflated sheepskins.

received the official imprimatur in our Field Service Regulations.

In olden times camping was considered necessary for the safety of the troops taking their repose, it being held that it would otherwise be impossible to form up in sufficient time to meet a sudden attack. The idea of quarters was always one of the widest imaginable dispersion. But since we have acquired the knack of huddling together in houses, and to disregard the derangement of the normal order of battle, this fear seems groundless. It is at variance with the simplest rules of common sense to encamp outside a village and then to occupy it in a hurry in the event of an attack being made by the enemy, as often happened in olden time. It is better to take up quarters there at once, since watchfulness and preparedness for combat can be observed equally well inside as out. The several units lie together in large buildings and farm premises. Each can readily find its way in sufficient time, prepare for defence, and make suitable arrangements. If the enemy appeared, all would be at their proper stations much sooner than if the troops had bivouacked outside and had to enter the place to be defended in the darkness of the night. The precaution must, however, be observed to quarter the troops in some sort of tactical order, each unit in the part of the place which it is eventually to defend. Even at the times of impending great decisions, when considerable masses are concentrated within a very narrow area, and tents and straw or brush shelters cannot be entirely avoided, as many troops as possible will be placed in the neighbouring villages. The advantage of housing does not alone consist in the fact that the troops are resting sheltered from the weather, but also in that they find cooking appliances, which facilitate the preparation of their food. This, in the open and with inadequate appliances, is always difficult, and, when the wind is strong, even quite impossible. The dust upon the sand-fields of the Mark sometimes makes, even in peace manœuvres, all cooked food uneatable. Moreover, even the most densely packed places generally afford a welcome addition to the supplies furnished by the columns and provision waggons. Thus the advantage of better food is also combined with the advantage of quarters. It is also so much easier to clean equipment and clothing indoors than in the open. In the winter campaign of 1870–71, the German troops did not

hesitate, even during the progress of battles, to seek night quarters in the villages and farms lying close to their posts. This was the case at Beaugency, at Le Mans, and on the Lisaine. Even if a body of troops be for once surprised and suffer losses, as at Beaugency, yet this disadvantage is as nothing compared with that which results to the troops when, from fear of such disasters, they are made to bivouac permanently in the open. The worse the season and the weather, the more necessary will it be to resort to cantonments and crowded marching quarters. A few nights unnecessarily spent in the open may equal the effects of an unfavourable battle, and are always worse than occasional night marches. The greatest difficulty will always be experienced in the accommodation of the horses, especially those of large masses of cavalry. The horses and men of the columns and trains find some shelter from the waggons.

The care, ability, and experience of commanders, and especially of the general staff, has full scope to manifest itself in the dispositions for the march and the quartering of the troops. In war there is much more marching than fighting. Hence that greater necessity of every effort possible to lessen the difficulties attendant upon the march.

Having familiarised ourselves with the manner of moving troops, it is fitting next to examine the best methods of employing them in the ever-changing problems of war. But, for this purpose, a preliminary examination of both so-called primordial forms of combat is indispensable.

7. *Attack and Defence.*

The topic of " Offensive or Defensive " was ever a favourite theme with military theorists, for the question, Which form of warfare is the stronger of the two ? is quite as fascinating as the answer to it may be varied, according to the thousand and one hypotheses that may be adopted as the basis of argument. Clausewitz says : " The defensive form of warfare is in its nature stronger than the offensive." Blume maintains : " The strategical offensive is the more effective form of warfare." Treatises upon this subject sound for the most part as though attack and defence were exclusively a matter of free choice on the part of combatants, whereas in reality this is hardly ever the case. Circumstances will from the

first assign to the one side the offensive, to the other the defensive. It is, therefore, much more profitable to study the particular requirements of the two forms, than to make a comparison between their respective inherent advantages and disadvantages. It is even doubtful whether it is at all in order to attempt such a camparison.

Napoleon I., by his bold and rapid aggressive wars, established the claim of the offensive to undoubted preference. The improvements in firearms of all kinds made since then at present tends to make the opposite appear correct from a tactical point of view. Since a strategical offensive, as we shall demonstrate later, is only practicable in conjunction with a tactical offensive, the disadvantage inherent in the latter would naturally make its effect felt in the strategical domain also.

According to this, the party upon the defensive by force of circumstances, *i.e.*, the passive party, should at once be in a position of advantage. This is a veiled contradiction, which shows that the idea of the greater strength of the defensive is, in spite of all that may be said, based on illusion.

True, that, with his improved arms of precision, the defender is able to make a clean sweep of the field within a zone of a thousand metres. A broad deadly belt, ten times as deep as in former days of the smooth-bore muskets, must be passed by the attacker. The defender profits by any protection that the ground, buildings, and artificial means of defence may afford, he is collected and prepared to meet the attack. His own fire may be vomited forth without interruption, whilst the attacker must often cease firing, in order to move forward under the most trying circumstances, and, besides facing loss and danger, he must also bear extreme fatigue. In the defence things are simpler. The command can remain entirely in the hands of the supreme authorities ; within the army, the scope of independent commanders will be greatly circumscribed. The supply of ammunition to the troops and the bringing up of available reserves will be easier, as only a definite line is held, and the troops are not dispersed in advancing, and mixed up ; directions are not changed, and action is not suspended in one place and resumed with redoubled vigour in another, as is bound to happen in every attack.

Besides tactical advantages, the defensive is sure of some

few other points in its favour. The commissariat, the bringing up of reserves of men and horses, and of supplies of all sorts, is less uncertain, because the army is close to its magazines and depôts, frequently even returns in the direction of them, and the lines of communication are not, as in the case of the offensive, continuously lengthening. In the case of the defensive, additional strength is put forth, in so far as the defender can employ many troops, which the attacker is not able to bring into the field. On the side of the defender, the garrisons of fortresses, which are within the theatre of war, are of real service, as they draw upon themselves part of the forces of the enemy, be it only to observe them. The attacker cannot bring his own fortress-garrisons into the field, because he dare not leave these places entirely unguarded, and must also bear in mind the possibility of a repulse. Besides, garrison troops are mostly unsuited for active service in the enemy's country. The defender can empoly forces of this type in wooded hilly country or in fortified positions. He is even aided by popular levies, which are not available for the purposes of the attacker. The citizen and peasant of advanced years may take up arms to defend their own hearths, but not to assist an army to extend its conquests in an enemy's country.

It is quite correct to say that the attacker must expect to suffer more losses and undergo the greater exertion. He labours under a great disadvantage in that his absolute strength dwindles in the course of events to a much higher degree than that of his opponent, the defender.

The attacker first enters the enemy's country and must occupy it. He must penetrate a more or less complicated system of frontier fortifications, must besiege a number of them, or must permanently watch them. Both entail expenditure of forces. As he advances, his lines of communication are lengthened and become less favourable to his purposes. Day by day the army needs more small garrisons in its rear, in order to keep open communication with the base, and the bringing up of reinforcements becomes increasingly difficult. Armies acting on the offensive melt like fresh snow in spring. The frontier is passed with hundreds of thousands, and after the lapse of a few months in the heart of the enemy's country the war is carried on with only a matter of thousands. Napoleon, who, in October, 1805, appeared on the theatre of war

in Germany with 200,000 men, was not able, in spite of his excellent system of economising strength, to collect more than 80,000 on December 2nd for the decisive struggle at Austerlitz. More startling still was the melting away of his forces on the victorious advance during his campaign in Russia. He crossed the Niemen at the end of June, 1812, with 363,000 men, and when he arrived in Moscow in the middle of September, he had no more than 95,000 with him.

And then, again, it will be difficult for the attacker to keep alive the original enthusiasm. The object seems attained after the first battles, and the advantage won. The necessity of putting forth continually fresh strength and resources in order to harvest fresh fruits, and to retain what has been won, is a difficult matter to explain to those called upon to bear the burthen. The defender is in quite a different position. As the enemy presses forward and keeps coming nearer, and the danger becomes more apparent, new sources are opened to him. Exceptional measures, in order to obtain recruits, arms, and money, need no justification. Initial reverses—when a proud and strong nation is behind the army—may be a very source of strength to the defence. The Northern States, during the great rebellion, and France, in the second half of the late war, furnish remarkable instances.

To counterbalance, however, all these disadvantages, the attack possesses, in a much higher degree than the defence, the capacity of exciting to action all the intellectual and moral forces of an army. This qualification explains how it happens that the former scores the greater number of final successes. The attacker proceeds from the first in clearer consciousness of the object in view. He chooses a certain aim, and his intellectual forces are thus guided into a definite groove. His intellect becomes productive as if by force of circumstances. Much is gained by the mere fact that the attack incites greater energy than the defence; for of two opponents equal in other respects, the more active will be the victor.

The defender awaits the blow in order to parry it. He must observe the enemy, and order his own action by that of the other. It is impossible for him to feel the same stimulating impulse as the enemy, who thereby becomes the controlling factor. The consciousness of this fact will speedily and surely pervade the masses, and work wonders. The

bearing of an army which is pressing forward is vastly different from that of a retreating or even of a waiting army. The spirit of enterprise is aroused, and the attack gives it a scope quite different from that of the defence. The former sets a much greater number of active factors in motion. We know already that the commander-in-chief only lays down general directions. The inferior commanders are called upon to follow independently the lead given them, and to exploit the occasion. *Any one of them, even the most junior, may become the chief factor in the drama, if chance should place him on the decisive spot.* A line of defence a few miles in length may in general be admirably chosen, and yet have a weak point, and the honour of the day will surely fall to him who assails this point with all his might. The sense of this possibility confers on the attacking army the advantage of greater dash. With the number of co-operating forces, the number of chances of success is also increased. A point, where the defenders' line has been pierced, acts as a magnet for all the parts of the attacking army not otherwise engaged. Just as waters rush towards a break in a dam to widen the opening, so here the waves of combatants throng to the spot where a bold stroke has made the first breach. Success in attack has, moreover, a double signification. *A successful defence merely proves that the enemy was at the moment not the stronger party, but the successful attack proves conclusively that the attacker is actually the stronger.*

Psychological elements are of equal influence in war as material ones. If we figure to ourselves a situation in which danger is apprehended, without our knowing when it will occur, we shall also understand the position of an army acting on the defensive, while awaiting the onslaught of the enemy. The defensive lacks the elements of impulsion. It fetters its forces instead of fostering them ; it is apt to force upon the soldier the feeling that the army and its commanders are controlled by the situation, instead of controlling it. And this feeling is not dispelled in the absence of a sufficiency of energetic action. In every defence the consciousness that the issue can only be considered happy if the whole line can be successfully held is disquieting. It is of no avail to succeed in holding five-sixths of it, if the enemy crushes the sixth part. It is even quite sufficient for him only to gain a flank, whence he can roll up the whole line. On August 18, 1870,

the issue was finally decided by only a few battalions, which gained the right flank of the enemy (who had held a front some miles in extent till evening), and in conjunction with the troops engaged in the frontal attack, succeeded in destroying a small portion of the French right. *It is a fateful difference, that the defender is only victorious when he wins at all points, while the attacker triumphs if he gains the upper hand in a single spot.*

This truth, which declares against the much-vaunted tactical defensive more than against the strategical, explains also the reason why the defence of rivers and chains of hills has hardly ever been successful for any length of time. Neither the Danube nor the Rhine have stopped armies. The very isolation of various bodies of troops placed at probable points of crossing is a danger. But a still greater danger lies in the conviction that every one is lost immediately one of its neighbours retires prematurely. A premium is, so to say, put upon a "seasonable retreat," which tends to weaken the energy of the defence.

The object of all war, the crushing of the enemy's forces, can, after all, only be achieved by attack. The partisans of the defensive also always maintain that it can only be assumed for a time, that in the end the defender must also begin to attack, and answer the thrust he has parried by a stroke in return, and that he must ever keep this in view. That is to say, in other words, that the defender would also be attacker, and only awaits the moment when he will be able to take the offensive with prospect of success. To make war means to attack.

There is no need to insist that the attack demands the greater expenditure, whether of physical or moral force, or of intelligence. Unless, therefore, the army acting on the offensive is decidedly superior in numbers—both belligerents being equal in other respects—it is absolutely essential that it should possess the inner worth, by which alone extreme strain can be sustained. Inefficient armies, be they ever so great in numbers, are unequal to certain tasks, as, for instance, the taking of well-defended localities, which cannot be turned or be taken by stratagem. Such places can only be taken by assault by very brave, clever, and properly trained troops. When these are wanting, it is generally of little avail to renew the attack with fresh troops, seeing that each isolated shock

is of little weight, and will not break down resistance. One vigorous assault will always effect more than ten feeble ones, even though they follow immediately one upon the other.

Since success in attack now depends very much upon the subordinate commanders, it follows that only an army possessing a thoroughly experienced, intelligent, and brave corps of officers, habituated to independent action, can be successful in the offensive. All its members must be endowed with the spirit of enterprise. As the absolute power of the attack is continually being expended from the first moment, it follows that a thoroughly well-organised system of reinforcements is one of the necessary conditions of success in the offensive. Reinforcements for the armies must always be in readiness, moreover, reinforcements of the right stamp, capable of fulfilling the arduous tasks of the attack. Hence the idea of the offensive *rôle* rests upon the supposition of an army carefully trained in times of peace, and of a rigid military system supported by public opinion.

Rapidity and continuity of action are the elements of the attack. No halt may be thought of before the object has been attained. Any suspension of operations is dangerous on account of the reaction succeeding a period of unwonted activity. It is difficult, during the operations, to resume the offensive once it has been suspended ; and to renew an attack in the course of a battle is practically impossible, unless reinforcements arrive and give a greater access of force than is lost during the period of relaxation. Hence the deliberate suspension of an attack is never justified, except by the definite prospect of the arrival of considerable reinforcements. In the face of unassailable positions the most daring attempts at turning them and at intimidating the enemy are better than waiting for a favourable opportunity. Otherwise the attacker will become the attacked ; for the courage of the defender must necessarily grow, as soon as he perceives that the opponent does not dare to attack him. It is, furthermore, in the interest of the attacker not to bring the battle to an issue in the place where the defender has prepared for it. It must be his constant aim to transfer it to other fields—that is, by his own manœuvring to force the defender into movement in a direction tending to favour the attack.

A rapid attack generally entails fewer losses on the whole,

although the latter may appear appalling for the time being. Rapidity is an element of particular importance in the tactical offensive. Frederick the Great thus teaches in his *General Principles of War*: "Therefore, the sharper attacks are, the fewer men they will cost."

The defence makes far less demands upon the quality of the army. Especially is this the case in the tactical defensive. In that situation the soldier becomes more of a machine than in the attack, his place being assigned to him, and his *rôle* clearly defined. Good shooting and firmness are the two essential qualities, and these the young inexperienced soldier is capable of developing. Initiative, enterprise, and ready perception are less material; at least, it is sufficient if a comparatively small proportion of the commanders possess these qualities. Considerable demands are, however, made upon discipline. But this latter can be more easily maintained in the case of the defence than in that of the attack.

Hence armies less efficient and masses which have been rapidly levied for the purposes of war, both of which would be absolutely incapable of an energetic offensive, may still achieve something considerable in the defensive. The difference between the two *rôles* is so considerable, that often the same troops cannot be recognised when they proceed from one to the other.

The elements of the offensive are rapidity and vigour; those of the defensive, perseverance and tenacity.

Whilst, accordingly, the former strives to gain its ends by heavy and rapid blows, the latter may rightly depend on the effects of time and on the constant renewal of measures of resistance. Every defence must therefore prepare accordingly from the very beginning. Several successive lines, to be held with all the force at its command, lend it great strength, and a wide expansion of the theatre of war is of advantage to it, as was shown in the campaign of 1812. Whilst, moreover, it has less need of a perfect military organisation and systematic training in times of peace, it requires, on the other hand, a full treasure chest and a solid national credit to enable it to respond to the growing and constantly recurring demands for resources in men and money during a war. And since, again, it seldom happens that a country is capable of furnishing unaided in the time allowed everything of which its armies stand in need, it follows that a State which means to be

successful in defensive warfare must have at its back either the open frontiers of friendly powers, or a sea of which it holds command. A country not in this position can at best only resist as long as its own industry is capable of supplying the needs of its army.

Whilst the assailant can only profit by the possession of fortresses as *points d'appui* for the organisation of his lines of communication, and as a protection of his magazines and depôts, the defender must derive a much greater advantage from them, make use of them as supports for his wings, and turn them to account in conjunction with the field army, either to defeat the enemy or to weaken him, before he comes up to the latter.

As we have already seen, the offensive seeks salvation in movement. Hence the defender can only rarely rely upon being attacked where he first takes up his position and prepares for battle. Exceptionally favourable topographical conditions alone can lead to this. The defender must, therefore, think of his own movements and be prepared to transfer his troops rapidly from one point to another. For that reason he must never be tied to a single line of communication, but must be in a position to change it readily. As, however, as a rule, he operates in his own country, and as there exists everywhere a comparatively dense network of railways in the present Western and Central Europe, that will not be a difficult task.

The battle, too, must not be prepared in only one position, but the main features at least of points of support must exist in localities where the attacker may possibly appear, and where the defender must be ready to resist him promptly. Very great regard has been paid to this point in France. The north-east of the country may be regarded as being one well-prepared battle-field. Wherever active armies may meet on this ground, field entrenchments will be seen to arise in a single night between the already existing fortifications from the very beginning of operations.

As the assailant has taken the initiative in movement, the defender is naturally exposed to the danger of arriving at the critical point later than the former. It will thus be necessary for him to impede the movements of the enemy. This may be done by means of counter-attacks, which come upon the opponent in the midst of the execution of his designs. Such

operations are, however, always difficult. They demand very exact information of the enemy, and resolute and cool commanders, who do not allow initial successes to carry them too far. The counter-attacks, which naturally have a surprising effect, generally begin favourably; but if the attacker does not lose his head, he will soon penetrate the intention, change his plans, bring up his forces, and at once proceed to a decisive issue. A counter-attack pushed too far may accordingly easily bring on the battle which the attacker has sought, and which the defender has not intended at the particular point, and for which he is not prepared. In that event the cause of the side acting on the defensive is half lost. Less danger attaches to the attempt to impede the movements of the attacker by taking up positions threatening his flank. Whilst the defender marches with his main body to the spot where he expects the issue to be decided, he can often drop detachments into such flank-positions without risk, and cause them to follow later, before they are seriously attacked.

Thus it follows that the defender can never really allow his *rôle* to consist, in accordance with the theory of the exponents of the defensive, in passively warding off attack alone, but he must rather bring into it an element of movement and battle as well. This active element is, after all, bound to step in, when the assailant, having been repulsed, must be attacked in turn, and be defeated. The longed-for moment for dropping the mask of the defensive and for assuming the offensive has then arrived.

Some of the main features of the nature and course of attack and defence having now been explained, there remains to consider the combination of both, which in the view of many members of the military profession forms the highest achievement of the art of war.

As the advantages of the offensive are principally seen in rapidity of movement, those of the defensive in fighting, it has been held to be best to combine the strategical offensive with the tactical defensive. According to this theory it would be necessary to advance against the enemy into his territory against positions which he dare not allow to be torn from him, and thus force him to fight, but remaining on the defensive during the ensuing battle and assigning to him the more difficult and damaging part of assailant. *Offensive movements* and *defensive battles*, a capital idea, indeed, but

one very difficult to realise, and scarcely ever to be met with in military history.

From what we have already said upon the subject of the strategical concentration, it follows that, in these days, it will not be possible, after concentrating the armies, to make any considerable advance without meeting with resistance on the part of the enemy. Hence offensive movements will entail immediate offensive action, and it cannot possibly be otherwise once capital points have been reached. If the army acting on the offensive should then wish to go over to the defensive, and allow itself to be attacked, it would restore to the enemy the strategical liberty of which it had only just deprived him with so much toil, and thus sacrifice its own advantage. The sudden transition from offensive to defensive might, moreover, not be without prejudicial influence upon the troops. But above all, we must remember that the commander-in-chief is never so entirely master of the form and time of the decision that he can determine it at will. In the same way as engagements, so the battle also will be the immediate result of movements. Hence it is quite natural, that armies on the advance should attack whenever they meet the enemy. The fighting, moreover, exercises its attractive force upon all troops; it is generally no longer possible to prescribe them a defensive attitude.

Situations may arise when despair and compulsion, which he cannot escape, force the defender to take the tactical offensive, and when the enemy, who has till then acted on the offensive, is compelled to adopt the defensive. This will be the case, for instance, when the defender has been driven back by the attacker into a great fortress, and necessity compels him to endeavour to free himself. The attacker, who is investing him, becomes at this moment changed into a defender, one even who is able to prepare his defence. This is what happened to the Germans before Metz and Paris. The saving of an object of great political importance may also compel the strategical defence to change *rôles*, and thus give the offensive the occasion for a tactical defensive. When, in the winter of 1870–71, the fall of the French capital, and with it the cessation of resistance throughout the whole of France, was impending, the Germans had occasion to fight against the enemy's troops coming to raise the siege. But in this case it was seen particularly clearly to what extent an

army that has for a long time advanced in successful attack lies under the spell of the spirit of the offensive. Even under these circumstances, our armies fought their battles almost everywhere as assailants, and only confined themselves to the defensive where necessity rendered it imperative. *The strategical and the tactical offensive are inseparable.*

It is similar with the strategical and tactical defensive. Whoever has observed a defensive attitude in his movements will generally keep to it on the battle-field also. The attacker, who passes from offensive manœuvres into action, presses him sorely. It then becomes exceedingly difficult for the defender to seize the moment for shaking off the yoke imposed on him, in order, in his turn, to play hammer, and to cease being the anvil. Here it is seen what it imports when one party has learnt to consider itself inferior to another. Even with superior numbers on its side, it will often remain on the defensive, and be glad if it can remain so without undue disadvantage.

Where originally the defence is due to the force of necessity, the army will usually remain on the defensive. If the enemy's attack has been repulsed, all doubt as to whether he will not again return with renewed strength and energy, or whether his repulse was final and complete, is not by any means completely dispelled. In most cases hesitation will be felt to compromise a success gained by a premature offensive. The defender will be content to maintain his position, so as not to lose what he surely holds, and he will readily abandon all idea of adding to his successes, because of the one safely in his hands. Again, it is never at the moment felt to be quite certain that the attacker has renounced further effort. This becomes apparent only by degrees, often not until the next morning, when a field of battle which has been successfully contested is found, to the general astonishment, to be evacuated by the enemy. In these days of great distances it is most difficult to recognise the turning points in the progress of battles. Thus the defensive will not, as a rule, be transformed on the battle-field into the offensive, unless considerable reinforcements are brought up to one's own front or flanks, or, as was the case at Waterloo and Königgratz, upon the enemy's flank.

Before the strategical defensive changes to the offensive a pause takes place. The original attacker is crippled and

cannot go on. The defender has got rid of the feeling of being mastered, is strengthened in moral and physical respect, and the change of *rôle* is thus gradually brought about, long before it is actually announced, to the surprise of the observer not on the spot. Napoleon's Grand Army practically perished on the advance into Russia, but the destruction only became apparent when the remnants of it began the retreat and the Russians set out in pursuit.

8. *Dispersion, Concentration, and Manœuvring*

"Every close concentration of great masses is an evil in itself. It is justified and imperative when it leads immediately to battle. It is dangerous, when in the presence of the enemy, to break up from it; and impossible to remain in it for any length of time.

"The most difficult task of all good leadership consists in keeping masses of troops separated, but without surrendering the power of concentrating them at the right moment.

"For this, no general rules can be laid down; the problem will vary on each occasion."

We place the leading principle governing the subject of this section at its head, but do not attempt to expound it, since it must be demonstrated by experience. As soon as it be denied that the crowding together of considerable masses is an evil, much that can be said about dispersion and concentration loses its force. One, however, who has been engaged in war knows how oppressive the crowding together of troops is felt to be, and how every one breathes again as soon as the masses are separated, and how each and every troop longs to be released from the close bond, so as to be able to move freely. We do not take into account fatalities such as infectious diseases, which, of course, spread more rapidly among closely combined than among widely-separated crowds, but only refer to ordinary evils, such as the want of space for quarters, the bivouacking in the open, the rapid consumption of all the resources of the country, want of water,* the non-arrival of supplies, the impossibility of conveying sick and wounded upon the crowded roads, the

* This was very keenly felt in the neighbourhood of Metz in 1870.

deterioration of the roads in bad weather, the confusions of and friction between, columns on the march, the picture of desolation which is spread when hundreds of thousands, like a swarm of locusts, pass over a district. The atmosphere is full of dust, smoke, and smells of burning. Those in the lead may find it still bearable. If, however, the passage of troops extends over two, three, or four consecutive days, the hindmost march through a mere wilderness. That is certainly sufficient to justify us in describing the massing of troops as an emergency measure.

"First of all, every army must live; it must eat, drink, rest, and have room to move." That is only possible when scattered. There are more towns, more wealth, and more railways and roads to and fro within an area of large extent than in a narrow space. The state of dispersion must accordingly be maintained as long as possible. A condition of concentration, with its train of discomforts, must be reckoned from the time when that amount of space can no longer be allowed to the army corps which, in the chapter on marches, we held to be necessary for moderate comfort. The columns should not be concentrated till the enemy is approached. The essential thing here is not to allow oneself to be deceived, and not to miscalculate. The solution of the problem depends only upon ordinary factors, viz. time, space, depth of march, and the marching capacity of the troops. Simple, however, as it looks, it is often rendered extremely hard by the fact that moral factors, rapid decision, perspicuity, firmness of conviction devoid of obstinacy, and energy in command and in action also come into play.

If during the movement a battle is seen to be inevitable, it will be necessary to bring up the long marching columns to the front, which must halt for this purpose. In such a case we speak of the deployment of troops to the front. But the divisions marching on parallel roads are also brought in. This is called the concentration of the armies. Before impending great decisive engagements with the enemy, a gradual concentration will be effected during the few days preceding the action. The deployment can be effected on the last day, if only one army corps is marching on every main road, or the two or three last days if two or three corps are marching on the same road one behind the other.

An army corps on the march without waggon-trains requires

roughly six hours for deployment to the front. If its train is to follow it, double the time is requisite. The head must, in that case, remain stationary; if it is obliged to move, the exertions of the hindmost troops are apt to be increased beyond all measure.

It frequently happens that after a certain distance has been covered the enemy is fallen in with and it becomes necessary to deploy. If the distance already covered was nine miles, the last battalion of the army corps will have marched over twenty-three miles before arriving upon the field of battle. An enemy, who in the early morning is more than fourteen miles distant, and who does not also advance, cannot well be attacked the same day. It must then suffice to bring the head close up to his position, the deployment and the attack being deferred till the following day. The attack may certainly be begun when only a part of the troops have closed to the front and deployed, leaving the remainder to come up during the action. As, however, this entails the impossibility of united action, it is a disadvantage. Reversely, this situation allows of the enemy being eluded, when more than fourteen miles intervene between him and the troops on the march. If, on the preceding night, his head was nine miles distant, it would only be necessary to retire nine miles, in order to avoid any serious engagement for that day. The foremost troops of the army corps of the enemy would have to march eighteen, and the hindmost as much as thirty-two, miles before reaching our position thus shifted back. But soldiers who have marched thirty miles are no longer to be feared, since they have exhausted their strength. The march would, besides, last so long that night would intervene, unless the attacker started before daybreak, and thus imposed a double exertion upon himself. In winter, when the roads are bad, the snow is deep, and darkness sets in early, a far shorter distance is sufficient to render it impossible for the enemy to undertake a vigorous attack.

But in order that this calculation may prove correct in practice it is necessary that one shall be able to move back with facility from the place in which one stood in the morning. It is necessary either to have a number of roads at disposal or to be able to retire with the troops in broad formation. Their strength, too, enters into the question. Given an army corps, deployed, which is required to retire upon a single

road, it needs for this purpose five to six hours,* the same as for deploying. If the enemy was a day's march distant, and he begins his advance simultaneously, the heads of his advancing columns fall in with our last detachment at the very moment of its quitting its original position, and it will scarcely escape without a brush. If, however, the baggage were behind our army corps, and must first of all be set in motion upon the line of retreat, the whole army corps will be caught; for, as the baggage-train occupies a length of road equal to a day's march, the army corps will still be waiting on the spot when the enemy arrives.

However, data of this kind must not be taken to apply with mathematical exactness. It is seldom that army corps are quite up to their full strength, and only in exceptional cases is an army corps tied strictly to a single road, unless it were compelled to pass a long defile, an embankment, or a pass. These examples will, however, make plain the points to be considered in the calculation of movements in advance or to the rear. They teach us that army corps cannot be moved about like men on a draught-board, but that, in addition to the time and space which each part must occupy in order to pass from one place to another, the time which the whole requires in order either to close up before the battle, or in order to file into a marching column, must be taken into consideration. It is also to be remembered that a certain attractive force, as that between a magnet and iron, comes into play between two large hostile bodies approaching each other. As one army corps is able to disturb the retreat of another which stands opposed to it at a distance of a day's march or less, and as the latter must therefore prepare for defence, it follows, as a general rule, *that large masses of hostile troops, which have approached each other to within such a distance, do not generally separate without a fight.* In such case an engagement must be anticipated from the first. Only where both armies are echeloned along the road in full marching depth, so that on the following morning all troops of the retiring side can fall in simultaneously, the latter will not be caught up, and an engagement thus avoided.

By reason of the considerable marching depth of an army

* Colonel Blume reckons five hours for a march of fourteen miles, including the filing of an army corps into a single marching column. ("Strategie," p. 48.)

corps, it is well known that two corps marching one behind the other upon the same road cannot possibly be both deployed to the front on a single day. If fighting commences at the head of the first army corps, the hindmost troops of the second corps must make at least a good two days' march* before arriving upon the battle-field. It is much easier to bring up two corps marching upon parallel roads, even though these roads lie as much as about thirteen miles apart; for, a simple calculation shows us that the last soldier of either army corps must at most cover between eighteen and twenty-two miles in order to enter the action which has commenced at the head of one of the corps. Similarly, even if three army corps advance upon three parallel roads, each of which is some thirteen miles distant from the next, they would still be able to deploy in line with the head of the centre column in a single day. If, however, the deployment is to be on one of the flank corps, two days would be necessary. If all three corps were made to follow each other upon one of those roads, they would require three days in order to deploy to the front.† General Benedek would have even required four days for his great column in 1866. The concentration of several corps at a given spot can, of course, be greatly facilitated by despatching them upon converging roads. An army extended in the morning along a line of twenty-seven miles can concentrate the same day upon a battle-field situate thirteen miles in front of the centre, provided only the corps are all in close village quarters or bivouacs and each has a separate road to the battle-field. The soldier farthest away would, as a simple geometrical figure will demonstrate, have only between eighteen and twenty-two miles to march; an achievement which can be demanded of him when the cannons call. The concentration naturally becomes simplified, if the army in the early morning does not form a straight line, but occupies the arc of a circle round the battle-field. *Great masses of troops can more easily be con-*

* We are taking here the army corps without its entire baggage train, for the greater part of it can be temporarily dispensed with.

† The difficulties in handling troops, arising from the great depth of the marching columns need all the more attention and thorough consideration in war games, staff tours, etc., as the full extent of these difficulties is not brought out in the peace manœuvres, when not only the waggon parks, but also the regimental vehicles are wanting, and the corps are only at half war strength.

centrated by closing to the centre than by closing to the front; but the best method is to march the several components on an adequate front by roads which converge upon the goal to be reached.

This brings us to the subject of *manœuvring*, but before going further, something must be said as to the meaning of the word *manœuvre*. The times are gone by when Massenbach thought to force the enemy to retreat by skilful manœuvring. We hold, with Clausewitz, that generals who would be victorious without shedding blood are not worth a thought. What vigorous enemy would allow himself to be intimidated by threats? We, accordingly, understand by manœuvres not "scientific" and not even "bold" marches, but always a combination of movements, ever intent upon launching superior numbers against the enemy at given points, in order to crush him. Every manœuvre must lead to battle to one's own advantage. Thus the word loses its guileless meaning.

The fact that troops can be more easily combined by deployment from parallel columns than by frontal deployment leads us at once to a consideration of enveloping movements. These operations owe the high reputation which they have acquired in modern warfare to the circumstance that it was always the side which was superior from the first that resorted to them. The overlapping of the enemy's line upon the wings by one's own superior forces gave an immediate inducement; or a sense of superiority, arising from the excellence of both commanders and troops, enabled one of the belligerents to resort to a wider extension. The weaker will naturally keep his masses closer together, and will avoid the separation necessitated by an enveloping movement.

The greatest advantage of all turning movements is that, if they succeed, they finally result in the whole of the enemy's army, or a part of it, being caught between two fires. Scharnhorst expressed himself to the effect that "troops attacked upon more than one side may be regarded as defeated." This pronouncement is not true unconditionally, yet it is founded upon the fact that he who finds himself between several enemies threatening him from different directions, is constrained to eccentric action which tends to split up his forces, and thus to weaken him, whilst the former work concentrically and gain in strength.

The further advantages of outflanking operations with separate and independent bodies of troops lie in the extent of elbow room afforded. First of all, the forces can more easily be got ready, and distinct groups can be formed at once. More railways run to two or three places than to one, and subsequent movement is facilitated by the possibility of using a greater number of roads. More villages and increased local resources will provide more liberally in respect of food and quarters. The concentration, also, when nearing the point towards which the advance is being directed, is more quickly effected. The menace to the enemy's line of communications by turning movements may have a powerful effect upon the opponent. The prospect that, in case of a disaster, he may be cut off from his lines of retreat or his means of subsistence at one and the same time, must tend to unsettle him.

When it is impossible to outflank both wings of the enemy, the most vulnerable one must be attempted. The general circumstances of the case will indicate whether it be on the right or on the left wing where success may be counted upon. Under certain circumstances the simple turning of a flank will be sufficient to cause the enemy to abandon his plans and evacuate his positions.

The turning of both wings will, when carried out in force, never miss its effect. It threatens the enemy with complete isolation and loss of freedom. In the background appears the hideous spectre of an enveloping battle and surrender. But, as a rule, the positive danger of such a situation is overestimated ; yet imaginary evils, owing to their influence upon the *moral*, often become real ones in war.

The principal objection to all enveloping movements is that which is true of all operations undertaken by divided and separate corps for the attainment of single objects, namely, that the enemy may avail himself of the temporary separation to defeat the several bodies before they are combined for the achievement of their final object.

This danger certainly does exist, but it is moderated to a great extent by attendant circumstances. The first of such circumstances is the clearness of the whole movement. The object is situated centrally, visible to all. All the commanders of the separate divisions of the army know that they can only contribute to the success of the whole enterprise by a steady

advance. By this means uniformity of action is guaranteed, and a mistake is not well possible.

The most effectual reply on the part of the defender to turning movements always consists in fighting, which summons the combatants on both sides to the spot. Manœuvring ceases, the forces are deployed for battle, and if the *tactical* envelopment be successfully eluded, the *strategical*, as a rule, ends with it.

He, accordingly, who in war finds himself outflanked during the operations, will find it to his advantage to immediately force his opponent to fight. A battle attracts all the forces to one locality, since its bearing on the issue of the war is so great that no assailant would consent to dispense with strong divisions of his army on the battle-field merely in order to be able to continue his outflanking manœuvres.

If, then, the greatest strength of the assailant lies in bold outflanking manœuvres, yet the side acting on the defensive is in no wise defenceless in their presence. By resolute action it can deal most effectual counter-strokes. How these must be done, depends upon circumstances, and the case will vary according as the outflanking has been effected only on one wing or on both.

If the combatant armies manœuvre so as to confront each other in parallel lines, everything will depend upon who is the first to decide upon concentrating great masses upon a given point, and then to begin and carry out his designs with the greater dexterity and energy. This is the only means of gaining superiority by manœuvring, all the rest must be left to battle. In the onset against the enemy's centre, in order to rout him, the danger will again loom up of being outflanked, and of seeing the corps hurrying up from the enemy's wings, appear on one's own flanks. Consequently one would generally be content with a more moderate measure of success, and devote some attention to one of the enemy's wings. This having been beaten, outflanking operations against other parts of the enemy's position can be initiated in natural sequence.

In all manœuvring in war, special regard will naturally be paid to the roads and railways upon which reinforcements of men, ammunition, and commissariat are carried to the front, and upon which the sick and wounded are conveyed to the rear, as well as to all such along which, in case of a disaster

aid can be found. But considerations of "lines of communication," and of the natural "line of retreat," must not, in a vigorous campaign, be the ruling idea. Attention can only be paid to them in so far as they do not prejudice the advancement of our own positive intentions, which are directed to the annihilation of the enemy. He who talks much about retreating when about to attack, would do better to remain at home. He who is victorious, secures at once his lines of communication and his lines of retreat, and even the defeated army often reaches them, though with difficulty, because defeat quickens its pace, whilst the victor reposes upon the scene of his triumphs.

However, unnatural relations in regard to the life-strings of an army, for as such the lines of communication may be regarded, are never agreeable. Their best position is behind the centre and at right angles to the front occupied. They are thus best protected from the enemy, and can be easily reached by all the troops, and circulation will, so to say, be unimpeded. The enemy who wishes to threaten them must make a wide turning movement round the flanks. A line of communication extending obliquely to the front is a danger, in so far as one wing will experience greater difficulty in communication with the rear, and the enemy can, on one of the flanks, operate with greater ease against the rear. Most unfavourable is the case where the line of communication runs from a wing, or even absolutely from a flank; because, in that case, its protection by the army itself becomes impossible, and special measures must necessarily be taken for its defence, involving an idle drain of strength. Only in the rarest cases will a strong force be restricted to a single line of communication. We, in civilised countries, prefer to assign a separate route to each army corps. The train, reinforcements, and stores of all descriptions from the base at home follow by the same route, which thus becomes a permanent line of communication. Under propitious circumstances, and where armies are not too large, each corps will thus have an artery of communication behind it for its own exclusive use.* When, however, an invasion has penetrated far into

* This is also in harmony with the administrative autonomy of an army corps, which has to provide for its own wants, and is, in this respect, dependent upon the head-quarter authorities for general directions only.

the enemy's country, all these lines of communication would probably be combined on a single line of railway for the use of the whole army, since several parallel lines of rail, all leading in the same direction, are rarely to be met with.

As the forward and return traffic upon the lines of communication is continuous, and as many arrangements of a permanent nature have to be made accordingly, it is not easy to change them; in any case, such a change will take much time to effect. This question must, therefore, receive due consideration in connection with all movements. When corps cross each other, this will naturally also entail a crossing of traffic on their respective lines of communication where a change of direction is impracticable. Crossings of baggage and transports on the march always lead to errors and congestion of traffic. An alteration in the disposition of a corps, which has taken place at the front, is not always communicated to the rear with sufficient promptitude to prevent the baggage waggons, etc., going astray. During a pause in the movements, the general should, if possible, endeavour to re-establish the original order of formation, for which opportunities may also occasionally present themselves in the course of evolutions. Anxiety to preserve the original order of formation should not, however, be carried too far. Mere inconveniences are far from being serious disadvantages. In modern times, troops are really only dependent upon their lines of communication for their ammunition, which must, of course, be brought up from the base by rail. In all other respects there is great liberty of action, and, consequently, the turning of a flank, or a threatening of the rear and the lines of communication, is now of less consequence than in former days, when its effect was often absolutely decisive. The simple geometrical cutting off of a line of communication, particularly, will never again, or rarely, cause much concern.

A line of communication extending at right angles behind the centre of the front forms also the most suitable and natural line of retreat, for an army forced to retire will generally take this direction. Any other line is a disadvantage, owing to the difficulties attendant upon controlling troops in such moments, yet, as we have seen, not sufficiently detrimental as to jeopardise the safety of the army. Lines of communication and lines of retreat may coincide, though

not necessarily so in all cases. The ones lead back to the original sources of strength, the others to a point where, at the moment, an accession of strength is likely to be found.

Topographical features play an important part in military movements in the sense that their peculiarities generally affect both parties equally. In whatever direction the enemy moves, we make it our business to follow him. The network of roads is the main factor.

Great military operations depend on a good system of main roads. A retiring army can gain a certain amount of local advantage by destroying bridges and roads. When, on December 20, 1870, General von Zastrow desired to advance from Auxerre upon the Upper Loire in order to support the Second German Army, he found all the roads rendered impassable in such a systematic manner, that his undertaking appeared wellnigh impracticable. But time is necessary for such works of destruction; temporary obstructions we are now very apt to overcome. In order, therefore, not to allow himself to be placed at a disadvantage by the conditions of the ground, the wisest course for the assailant will be to forge ahead, and keep his adversary constantly at the sword's point.

Movements begin on a wide front, and with troops distributed upon as many roads as possible. Wherever practicable, the corps divide, utilising all available secondary roads. When the cavalry discover the enemy, either approaching or stationary, the marching columns concentrate upon his position, and manœuvring begins. An outflanking operation, or an attack by the main body upon a wing or the centre, is initiated, to which the enemy replies with similar measures. He evades being surrounded, changes his direction or his front, takes up a flank position, and evacuates it again if his prospects in the threatened battle appear too doubtful. He is pursued, and falls back, but finds himself gradually more deeply involved. The opposing troops continue to draw closer together.

The purpose of making everything as comfortable as possible for the troops is soon beyond the range of possibility. The baggage, with the exception of the most indispensable part of it, must be left behind. It is left at places whence it can later be brought up with ease. By this means, the roads immediately behind the leading corps are cleared

for others to follow in the same direction, so as to be able to come up to the support of the leading corps in the course of the day of the expected battle. It may happen that two armies pursue the same direction upon a certain number of roads. The leading army had, perhaps, to execute a great outflanking movement. The enemy has shown himself in greater strength than was expected, and a reserve army must as speedily as possible be sent to its assistance, in order that the first advantages may not be lost. The army in front removes its train entirely clear of the line of march of the army following in support, by diverting it to the roads which form the line of communication of the flank corps, and echelons the vehicles in a position from which they can regain their respective corps, or it draws them up to its own immediate proximity. When a further advance is not immediately expected, the supplies are emptied into magazines, or the waggons which follow the troops are charged with an extra load, and the empty vehicles sent to the rear by side roads. In such movements it is proper to adopt *every means of keeping the roads clear, and making room for the movement of the combatants.* Village encampments (*Ortschaftslager*) become more and more like bivouacs pure and simple. Such conditions cannot, of course, last long. The two sides, once they have approached each other so closely, no longer part without fighting.

The battle cuts the Gordian knot. The defeated army endeavours to escape, while the victor strives to catch up with him again. But in order to effect this, and to move with greater facility, he must distribute his masses over a larger space, where they will find more roads. Baggage and columns are brought up; the troops have latterly been badly provided for, and they must be accommodated in more roomy quarters. Once again the enemy has recovered and makes a stand. A fresh concentration of forces is followed by another battle.

Thus the movements of armies resolve themselves into a constant *separation* and *reunion*. For both, the right moment must be chosen. If the forces are concentrated too soon, it will be necessary either to disperse again, or to march in close formation over a narrow space and upon few roads. In such a case the advantages of concentration are neutralised, either by the compulsory fresh extension of front, or owing

to an excessive depth of marching columns. The commander who keeps his troops concentrated for too long a period, overlooks the fact that an army requires room to live. The commander who is late in concentrating his forces, or separates them prematurely, risks the defeat of individual portions of his army. The proper connection of movement and battle cannot be regulated by fixed rules. The simplest manœuvres are the best; the main object is not to display art, but to defeat the enemy. A careful study of the map, compass in hand, is the best means of solving the task. Battle demands a combination of all the forces, but it is necessary always to bear in mind that every concentration of troops brings hardships and privations in its train, that quarters and provisions fail, and that diseases find a fruitful soil. Dispersion is therefore preferable, so long as eventual unity of action is assured. *The essential in war is not the massing of troops, but rather their co-operation.*

9. *Actions Generally*

We shall not treat here of any particular battle, but of action generally, in order to examine more closely its main features.

"*L'arme à feu c'est tout, le reste ce n'est rien,*"* is a saying of Napoleon, of whom it has frequently been said, that he conceived his strength to lie in the bayonet attack of great masses. If we reflect, that under favourable conditions satisfactory results can be obtained with the rifle up to 1500 yards, and with artillery to the double and treble distance, we shall not be disposed to dispute the correctness of the above-cited maxim. Modern battles are decided by great masses of projectiles simultaneously hurled at the enemy. Though expressions such as "covering the ground with lead," and "sweeping the field with bullets," are somewhat extravagant, still, they are apt in a certain sense, as it is quite impossible for any one to remain standing up without cover, or even to expose himself mounted within the radius of action. Swarms of riflemen, lying flat on the ground, in a long unbroken line, exchange a constant stream of bullets, till one side gives way.†

* "Fire is everything: the rest is nothing."

† The experiments with machine-guns and mitrailleuses are a portent of modern fighting methods. The present small-calibre quick-firers (5·3 or 5·7 cm. guns), which are capable of firing up to forty

Nevertheless, the legendary bayonet charge—which Suwarrow put in the neat saying, "The bullet is a fool, but the bayonet is wise,"—still retains a deep significance. The rifle causes losses in the enemy's ranks, and the bayonet—the close approach of man to man—augments the impression caused by the former by adding terror to it. Both must go hand-in-hand; for the object is not so much the annihilation of the enemy's fighting men, as the subjection of their courage. The victory is won, as soon as the conviction has been brought home to the adversary that he has lost the day. This conviction he will never gain, in spite of all the vehemence of the rain of bullets, as long as the combatants remain at the same respectful distance from each other. An advance to close quarters will, however, convince the enemy that all his firing does not prevent his opponent from coming to grips with him, and then danger presents itself to him in a threatening aspect. If, then, a determined rush is made from the last position, without any intermediate halt, the enemy, already shaken, will, as a rule, consider himself defeated, and give way. This rush is called a bayonet charge, although the bayonet, generally speaking, plays but an insignificant part.* *The ever irresistible strength of a bayonet charge lies in the conviction forced upon the adversary, that a body of men which possesses the energy to force its way through a deadly shower of projectiles will, if necessary, certainly display the requisite energy to finish him off with cold steel if he awaits its approach.* The shuddering fear of death then drives him to flight.

In the Russian army, the marvellous efficacy of the bayonet is preached even to-day. When, however, illustrious writers, in dealing with it, recommended charging in close formation, the doctrine was carried too far. Close order is impracticable except in situations where the enemy's fire has slackened owing to demoralisation or the want of a clear field, or where it has been put down by the combined effects of artillery and

rounds per minute each breaking up on an average into eighty fragments, or hurling an even greater number of canister balls—thus pouring forth rather more than 3000 projectiles per minute—almost realise the wish for machines scattering bullets like the drill scatters the seed. There only remains to solve the problem of an adequate supply of ammunition, a problem which certainly is not easy of solution.

* In village and wood fighting, when the combatants come to close quarters unexpectedly, it may do a greater amount of execution.

infantry fire, when it becomes merely a question of exploiting an advantage gained by the occupation of certain ground. In a thick wood, or at night, it will be best to work in close columns, than to direct an ineffectual fire of skirmishers amongst the foliage or into obscurity. As the battle dies down, the hostile batteries having either been put out of action or driven off the field, and the bulk of the infantry having already evacuated their positions, only a few belated skirmishers still maintaining a spasmodic fire, the field will be taken possession of by troops in close formation. In all other circumstances, however, the troops will invariably extend in thin lines. The rush in extended order bespeaks a high degree of courage, individual skirmishers being more dependent on self and lacking the impetus given by closed ranks. The ability, or otherwise, of a body of troops to make a determined rush in the direction of the enemy is due, not to dogmatic teaching, but to a uniform practical system of training.

But the transition to extended order must never take place prematurely, certainly not before the probability of serious losses to battalions and companies in close formation renders it absolutely necessary. A company in extended order is partially beyond control, and the authority of its leader is greatly diminished and it is hard to direct. A battalion in close order can be moved by word of command to the right or left, to the front, or to the rear; not so a company in extended order, although only a quarter as strong. The impulse for a further advance during the action is usually given by fresh contingents coming up in a compact body; for the resolve generally proceeds from the commanders, and these now have complete control over closed bodies only. They are the tools which execute their will. In the first part of the campaign of 1870, when our soldiers were as yet unfamiliar with the new long-range rifles, we often tried to advance within the distance at which our needle-guns were effective, not till then breaking into extended order for the fire fight. Great losses were thus unavoidable; for, whilst our infantry covered hundreds of yards across the field of battle, they were showered with projectiles, without being able to send back a single one. In such a situation, the French were calm and collected, and fired well; but the Germans soon found a remedy. A very widely extended line

was sent forward, which engaged all the attention of the enemy and drew his fire. Under cover of it other troops advanced without great risk. In the latter part of the war, moreover, the aid of the artillery was duly awaited. In this period, charges, which in the month of August, at Wörth, Spicheren, or Metz, would have cost thousands of lives, were successfully executed with little loss; such, for instance, as that executed by the Third Army Corps on the first day of the Battle of Orleans, against the heights of Chilleurs aux Bois, and again by the Ninth Army Corps, at the storming of the Plateau d'Auvours before Le Mans. Other than these simple measures "for avoiding losses" will also be unnecessary in the future. There will be even less need, since the armament of the infantry has since then been equalised. He who studies too much how to avoid losses, will unlearn how to bear those that are inevitable.

The question as to how close we should approach to the enemy before extending, depends upon the ground and the special circumstances of the case. As the impetus for each fresh advance must come from a reinforcement of fresh troops sent into the firing line, it follows that the original distance from it to the enemy's position must not be so great that it will be necessary to halt more frequently than it is possible to reinforce. Besides, in advancing through corn, underwood, gardens, and villages, the extended line is bound to leave men behind, since they are not so closely under the eyes of their officers as when in the ranks. For this reason also, we must avoid passing over excessive distances in extended order. Wise moderation is salutary.

In recent times, it has been endeavoured to regain the fullest possible control in the firing line; to bring disorder into order, one of the means to this end being to make them very dense. Our present lines of skirmishers often bear a strong resemblance to the long lines of infantry of the time of Frederick the Great, except that ours do not advance in parade step, and do not fire standing, but lying down, and that, moreover, they have lost some of the stiffness of the straight line, availing themselves of the features of the ground wherever they afford the benefit of cover.* A tendency

* The old military idea of the beautiful prevails still too often, even to-day, and may eventually carry us back to the days of Mollwitz. Comfort is derived from the reflection that parade forms will be con-

also exists of reviving the practice of a hundred years ago, to regulate the firing by word of command. This problem is now more difficult of solution than formerly; because the present loose order and the noise of the rapid firing tend to increase confusion, the human voice is drowned, and the excitement of the battle engrosses, more than ever, the attention of all concerned, and shakes the composure of the human mind.

The desire to keep the expenditure of ammunition under control is a natural one; for, in case of waste, it may be difficult to supply it, and a body of men that has exhausted its ammunition is for the moment a dead force.* It is also quite correct to assume the probability that a distant object will be hit by some at least of a large number of bullets fired at it simultaneously, where single shots would fail. Again, considering the uncertainties of all speculation as to range, it would appear rational not to let all the men fire with the same sight, but to cause some to fire with sights above, others below, the estimated distance, in order thus to cover a zone with projectiles, within which some of the enemy are bound to be hit. A mass of bullets fired simultaneously at the commencement of an action will possibly allow of the effects being observed, so that, after various distances have been tried, the right one is found, whereupon all the men will, of course, fire with the same sight. In the case of very small detachments the suggested process of ranging is not a practicable one. But the success of such endeavours to regulate the stream of bullets hurled at the enemy is never quite certain, and it were an illusion to believe that a number of men could now be employed in battle like an animated mitrailleuse, to be directed at will, now here now there, at the word of command. This is only apparently possible at field-firing in time of peace; for the thinking faculty of the ordinary private soldier works far too slowly as to be capable, between the moment of naming the target and the

fined to peace manœuvres, and that they will disappear on the battle-field as a matter of course. It is well, however, not to underrate the force of habit, which may make unreal show a serious stumbling-block in the days of real war.

* The experiences of battle have, however, proved so far that, with the present system of ammunition supply, the mutual assistance of troops was quite sufficient to make good a local deficiency. A general deficiency has never occurred.

word "Fire!" of keeping his mind, eye and weapon on the object.* He hears the sound of the voice, fires in the direction of the target, and, as a rule, only awakens later to the consciousness of where his bullet should have struck. It often happens even to an educated man, accustomed to think rapidly, that he hears something, but yet asks the speaker what he has said; and then immediately, before the other has had time to repeat his words, himself knows what it was. Such is a simple case of the slow working of communication between the ear and the intellect. Now what, apart from any danger, is difficult, will be wellnigh impossible in the wild excitement of battle. Although, therefore, it is proper to exact the highest possible results in peace training, our expectations must be materially modified in the rude reality of war. A certain and definite influence can be exercised by the officers upon their men at the opening of fire, and some portion at least of this influence may remain active in the subsequent stages. The bulk of the soldiers will thus learn not only how to aim, but also to reason as to the possibility

* The surprisingly good results often obtained at the rifle-butts by volley-firing, at the word of command, certainly prove of what the arm is capable if properly handled, and when circumstances are favourable to its use. But it would be extremely dangerous to estimate the effect of fire in action by the same standard. Irrespective of the fact, that in target practice the men are not perturbed by danger, and all excitement of battle is wanting, and moreover that, as a rule, good weather and normal circumstances are chosen, we must also remember that on the ranges the whole attention of the man is concentrated upon the target at which he is to fire. The manifold perplexing impressions and distracting incidents which in real battle engross the thoughts and senses of the man are here wanting. The excellent history of the Second Regiment of Foot Guards, written by Baron v. Lüdinghausen, called v. Wolff, p. 234, speaks in terms of praise of the musketry instructor of the 4th company, Serjeant Schulz, for having, whilst under fire at the battle of St. Privat, observed that his men, in the excitement, were firing at 400 paces with the back sight of the old needle-gun down, for and having ordered it to be altered. If, then, the simple fact, that a superior in the midst of danger preserves his composure and presence of mind so far as to correct the sight, be considered —and rightly—something extraordinary, an unduly high estimate of the precision of the fire of great masses in battle must not be indulged in. In order to attain similar results, as on the rifle-range, the employment of the correct sight would be the most elementary condition; and if that alone be deemed difficult and its observance worthy of special commendation, what shall be said of the rapid sighting of the target, the proper holding of the rifle, and the steady pressure of the trigger, etc.?

or impossibility of the success of their fire. Accordingly, in the wars of the future, there will be improved chances of the showers of bullets being directed upon the right objects. *As these objects are much more clearly and generally apparent to the attacker, who by his movement is directed upon definite objects, than they are to the defender, it follows that it is a great error to assume that the advantages of the fire-fight are entirely on the side of the latter.*

Given that the volume of fire decides the day, the combatant who can bring all his weapons simultaneously and collectively into action will have the greatest prospect of success. It is, however, impossible to do this completely. We have already seen that one part of the troops must be held back at first, in order to help us in the subsequent stages of the advance. A reserve must also be kept in hand in view of possible unforeseen emergencies, so that all the forces become engaged only by degrees. *But we must reflect that the gradual expenditure of forces is a necessary evil, and not an advantage of the new methods of fighting.*

This must be borne in mind in the preliminaries of an action. A gradual total expenditure of the forces is often brought about by the disregard of preliminary measures. The thirst of the subordinate commanders for glory, and unrest on the part of the higher commanders, drives the troops by driblets into the battle, just as they come up.

This cannot frequently be avoided, because the engagement results from unexpected contact with the enemy, and becomes at once so violent that there is no longer any option. But whenever it is at all possible, the assembly and a well-ordered deployment of the forces should precede the opening of fire, and a commander should allow himself time to bring his troops first into the direction in which their attack will be the easiest and the most effectual. *A careful preparation of the battle secures the simultaneous and collective employment, if not of all forces, yet of the major part of them.* It spares much bloodshed, and, in the course of the battle, fully repays the time previously spent. If, in the future, ample time is taken for preparation, the idea of the gradual expenditure of the forces will be rectified. The duration of the battles will not, perhaps, be ordinarily rendered much shorter, because preliminaries and a thorough preparation require time; but the real decisive action proper will be compressed within a

narrow compass, and will again take the form of the great collective effort of a weighty mass, and not as the sum total of a number of small individual blows, which are only connected in so far as they are all directed towards the destruction of the same object. When, in days gone by, salvation in the infantry fight was sought in a repetition of efforts, the troops being formed accordingly in a succession of lines, to be hurled at the enemy one after the other, in order to exhaust the enemy by keeping him in a state of high tension, it was simply a case of making a virtue of necessity. The mischief habitually arising from the incompetence of leaders was even appraised as the normal condition. To-day such linear tactics would be the less practicable, since the present effective long-range fire would cause almost as many casualties during the movement of one of the lines in rear into the fighting area as in the latter itself.

Even when an engagement ensues upon a sudden encounter, it will often be possible to keep the fight stationary with only a portion of the troops, the rest being meanwhile formed up in regular order after due deliberation.

What has been said here relative to the action of infantry is equally applicable to the whole army. The preliminary dispositions for battle must provide for the co-operation of all three arms. Now, more than ever, the artillery is the indispensable companion of the infantry. It makes an opening where the latter is not able to force its way unaided. It inaugurates the battle, shields the infantry from unnecessary losses where the best troops would be shattered before insuperable obstacles, and gives it support and shelter when it is compelled to retire. As the enemy uses his artillery in a similar manner, the action commences with an artillery engagement, and the infantry attack does not take place till most of the enemy's guns are silenced and their final defeat appears imminent. The artillery seconds the infantry attack with its guns, without itself coming within range of effective rifle-fire. It subdues this latter from a distance, and thus prevents the great disasters which might otherwise befall its own infantry in the attack of strong positions. In spite of the increased power of penetration of modern rifle bullets, which at distances of several hundred metres still pierce stout beams, thin iron plates, light brick walls, and a half metre of freshly-shovelled sand, resourceful riflemen

will improvise plenty of good cover. Garden walls built of boulders, which are so common in central Europe, defy rifle-bullets. Infantry posted behind loopholes in such walls will pour its fire upon the enemy as calmly as on the rifle-range, and the best infantry in the world will be impotent in an attack under such conditions. The greater its bravery, the more will it conduce to its own destruction ; and in order to avoid this, it must be supported by artillery.

Since the experiences of Plevna, where the ordinary rifled field-guns, till then used exclusively, proved ineffectual against earthworks, the artillery has provided itself with special means of acting against troops under cover. As already pointed out, the means to this end varied. One method consisted in giving the fragments of a projectile above the target a very abrupt angle of descent by the employment of a powerful bursting charge. This is possible if the force of the bursting charge exceeds that remaining to the projectile by virtue of its flight. An alternative method consisted in the introduction into several European armies of high-angle field-guns, which throw their projectiles on the target and behind the cover under a very large angle of descent, the bursting charge being, moreover, more powerful still. In the former method it has been the aim to retain the advantage of a single pattern of gun, with the addition of a substitute for the effect of high-angle fire against invisible targets to that of the ordinary low trajectory, as employed against visible targets. This is an important point in so far as the same batteries will be universally available, whereas the introduction of high-angle batteries will alter this condition, and leave it open to doubt whether these batteries will always be on the spot when wanted. By the second method the greater effect of high-angle fire is obtained, combined with facilities for firing from completely sheltered and concealed positions. The last word has not yet been spoken in this question, but it is so near maturity that its early solution seems beyond doubt. Victory seems to incline to the high-angle gun, though the balance still wavers between field mortars and field howitzers.* This forms merely

* I should here remind my readers that field howitzers or field mortar batteries are not to be confused with the "heavy artillery of a field army," which has a separate organisation, and is designed for specific purposes.

the completion of a cycle, for we must not forget that, before the introduction of the modern rifled gun, field artillery included howitzers and mortars as well as ordinary field guns, and that all three would probably have been replaced by modifications of the new model if new patterns had been invented at the same time. It admits of no doubt that the artillery of the future will play a more important part against defenders under strong cover, and that it will afford greater support to the infantry than was the case in recent wars, more particularly in the movement which culminated in the Russian attack on Osman Pasha's entrenchments. He who has ever in real war learned to know the difference between an attack upon infantry undisturbed by artillery, and upon infantry which has for a long time been exposed to the effect of artillery fire, will never forget it. The bursting of the first shells in the sheltered lines of the defenders produces an almost instantaneous effect.

Two recent innovations tend to enlarge the scope of the co-operation of artillery with infantry very greatly, the first being the employment of smokeless powder. In the great battles of 1870 the greatest obstacle to artillery rendering effective aid to infantry to the last moment of the assault was the smoke of powder, which hung thickly over friend and foe and made discrimination impossible. At St. Privat it was impossible to observe the actual course of the struggle for the village from the not very distant station of the staff of the Second Army; it was believed that the place had been taken when it was yet completely in the hands of the defenders. In order to obviate this evil the artillery frequently accompanied the infantry to close proximity of the enemy. That, however, necessitated a suspension of fire at the moment when it was least desirable, and became the cause of excessive casualties. In the face of modern artillery fire such procedure becomes still more dangerous, possibly impossible, but also unnecessary. Smoke will not in future conceal either the sheltered lines of the defenders or the advancing hosts of assailants, and the latter are no longer in danger of themselves being injured by their own batteries as well as the enemy.

The second new feature—the introduction of quick-firing field-guns—will enable the artillery to overwhelm the positions to be taken in the moment of decision with a much

heavier hail of projectiles than was possible before. Hitherto undreamt-of effects may be expected in the hour of decision, which will surely raise the faithful support of their artillery in the grateful estimation of our infantry.

Upon the side of the defender the batteries which had been silenced in the artillery engagement again resume their activity, immediately the infantry action begins in earnest. They then hold out with their own infantry in the latter's position to the last extremity, regardless of the danger of falling into the enemy's hand. Even at the last moment they assist in warding off the enemy's onslaught or facilitate the retreat of the defeated defender by their fire.

The part played by the artillery is not a decisive one ; for only a very inferior enemy will allow himself to be driven out of his positions by distant artillery fire, and abandon them before he is hard pressed by infantry. It nevertheless plays a not inconsiderable part. Infantry can no longer dispense with its assistance, without risk of defeat and annihilation.*

The cavalry also will again play its *rôle* in deciding the day, as in former times, when Seydlitz led the attack at Kolin, Rossbach, and Zorndorf. This hope of the cavalry is amply justified by the recollection of certain phases of the infantry fight in recent wars, when lines of skirmishers were often seen to dissolve under the fire poured upon them, to become thinner and thinner, and, in their endeavour to surround the enemy, to extend unduly, fritter away their strength and eventually lose all cohesion. Their energies became exhausted in advancing through thick corn or underwood, in climbing hills, and in the breathless charge which, perhaps, followed immediately upon a long march and movements in serried ranks across country. Ammunition almost gave out. Many officers fell, and command nearly ceased. In such moments the anxious question must have risen to many lips : how if now the enemy's cavalry appeared on the flank, and swept over the battlefield ? Would it not sweep away the wreck of the infantry without special effort ? When,

* All infantrymen should realise this and resolve to remain true to the artillery, and protect it from surprise by hostile infantry or cavalry. The artillery is fully justified to expect this, for nothing hampers it so much as the dread of losing its guns through moving too far to the front, while a faint-hearted infantry seems inclined to desert it in the hour of danger.

on the evening of the battle of Vionville, the dusk descended, and scarcely any infantry remained on the wide battlefield, and the great masses of the artillery of the centre, more than 100 guns strong, stood defenceless, a similar thought arose in our breasts. It appeared that it would have been impossible to check a resolute body of cavalry, boldly charging upon these batteries. This view of the case was one of the reasons for despatching all our available cavalry against the enemy.

Every great battle of modern times will be accompanied by such episodes, but owing to the great distances, those on one's own side will be more apt to come to notice than those occurring with the enemy. Then, again, the semblance of weakness is greater than the reality. French squadrons in 1870 braved death in hurling themselves amidst the lines of German skirmishers, and yet were shattered by the fire of small detachments. Bodies of cavalry present too large a target to be able to hold out within range of effective infantry-fire. They must even avoid the shrapnel-fire of the artillery with its showers of bullets and splinters, before making its charge, and if they do not find sufficient cover, their safety lies in distance. If its commanders ride as far into the arena of action as mounted officers generally are able to do, in order to inform themselves as to the situation, they will nevertheless see but little, even though the smoke of powder has lifted. The signs of weakness are only perceived in the foremost rank of the opposing infantry, and their behaviour gives the first signal of an impending crisis. While then the cavalry generals hasten back to their squadrons and bring them into action, valuable time is lost, and the propitious moment may meanwhile have passed by. Masses of cavalry in motion are easily noticed. A cavalry division at the trot throws up as much dust as an army corps in rapid movement, and, in fairly open country, it immediately draws all the enemy's fire. The latter knows full well that this is a question of minutes only, for which he can well afford to suspend fire against other objects. It is scarcely possible to miss a mark of the size of a cavalry division. The artillery can turn to account the longest ranges, and up to distances of 500 yards the trajectory of the infantry rifle does not rise to the full height of a horseman. The infantry open rapid fire, and within the space of a single minute launche

innumerable bullets against the approaching enemy. The horses have improved since the days of the Seven Years' War, and have greater endurance in charging over great distances, but this increase in their power has not kept pace with the increased effect of arms of precision. Formerly, again, the fighting power of the infantry was broken as soon as their serried ranks were broken and scattered. Now, however, they begin an action by dispersion. Each small detachment is in itself a useful whole; even the individual does not feel himself defenceless so long as he has any cartridges left. The relation between the cavalry and the infantry has become completely altered. Seydlitz, Zieten, Driesen, Gessler, were able to keep their squadrons in readiness within 600 paces of the enemy, to ride up in person to within half that distance, survey the enemy, as, in these days, an infantry brigade at drill is inspected, seize the moment when the lines began to waver, and then hurl their force upon them. It was only necessary to penetrate at one point, in order to roll up the whole line of battle afterwards. Now, however, success is infinitely more difficult to attain; even infantry that has been ridden over by cavalry is not put out of action, but only its fire is temporarily interrupted. By repeated charges, the cavalry hopes to work surprising and enduring effects. Whilst the leading squadrons draw the infantry fire and attract the enemy's attention, the clouds of dust raised by them will shroud those following and enable them to draw near without being perceived and with little loss. Hilly and covered ground, moreover, which is more favourable to mounted action than the open plain, will afford it the opportunity of making surprise attacks. But even these advantageous circumstances will only rarely neutralise the great superiority of infantry fire.

Successful engagements by bodies of cavalry are admittedly possible. Whether they will, however, be so frequent as to deserve recognition as a factor influencing the methods of warfare, can only be learnt from experience. We will be partial in our judgment (as every soldier is entitled to be) and say: "German infantry has nothing to fear from the enemy's cavalry; let us see, whether our cavalry will make itself feared by the enemy's infantry." The shock of masses of cavalry will be most effectual on the enemy's flank, where they are both least exposed to fire, and where the repulsed

opposing cavalry will shield them. If such a wide sweep is impossible, a slanting blow against the flank will be a good alternative. In very obstinately contested and scattered battles, cavalry may even attack the enemy's front, dashing through its own infantry. In former times frequent opportunities occurred to emerge suddenly from the dense cloud of smoke overhanging the lines of the infantry. But this screen will not avail in future, when smokeless powder will no longer conceal the advancing squadrons, which will be observed long before they pass their own firing line. Hence the success of such enterprises will depend on a state of extreme excitement and confusion in the struggling masses, or on the close or undulating nature of the ground. In critical moments, a cavalry charge, even though unsuccessful, may be productive of great results; as it interrupts the enemy's fire and renders it possible for its own infantry to come close up to the enemy, which was till then impossible. Only the infantry must take advantage of this rapidly speeding moment and advance simultaneously with the cavalry, in order to gain ground behind it, instead, as generally happens, of being a motionless spectator of the exciting scene. The losses will always be great, but cavalry must not fear them, if it means to succeed in action. Owing, however, to these losses cavalry can only make one really serious attack in a day. The stake is great and therefore the resolve and the choice of the moment will be the more difficult.

Cavalry may always be relied upon to render important service against the corresponding arm of the enemy. At the commencement of the action it has to sweep aside the enemy's horse from the front, in order that his position may be reconnoitred. During the engagement it protects the flanks. Being now trained to fight on foot, and having horse artillery attached, it can perform even more valuable service by working round the enemy's wings, and operating on his line of advance, hemming the flow of reinforcements and causing confusion in the enemy's rear.

We must now examine *the influence of ground upon battle*, but we do not intend to go into details, since they would carry us beyond the purpose and scope of these studies. The effect of ground upon battle has diminished latterly, because, as we have already repeated, ultimate success no longer

pends upon the maintenance of a definite order of battle. s effect is least in respect of the principal arm. Wherever man can go, an infantry soldier can carry his rifle, and even gh mountain ranges do no longer prevent him from fighting. n most cases ground will affect both armies alike, both in ovement and battle. In dense forests, or in rugged moun- in districts, the defender enjoys no greater facilities for ne employment of large masses than the assailant. Some- mes, however, any existing advantage of the ground is ntirely on one side; and, as the defender has the choice of ne theatre of operations, this advantage will generally be his.

The first consideration is the supremely important ques- on of roads. Next in importance is to ascertain how far ne terrain is favourable to the effect of our arms, and how r it hinders that of the enemy.

The strength of positions is no longer determined by bstructions, such as watercourses, valleys, and precipices in s front, but by the nature of the ground as affecting fire ction.

In the case of a river valley and meadow-land lying be- ween chains of hills or declivities, which extend beyond ne range of artillery, the conditions of the battle are such hat the assailant must send his infantry down to the low round and cause it to attack the opposite slope without the pport of their own batteries. The battle will here be very nequal, as the artillery and infantry on the side acting on ne defensive will be combined against the infantry of the ttacker. Valleys of this type are of much greater import- nce than others of similar features, but of less width, so that ne defender's artillery commands the approaches from the pposite side. In this second case, it is no longer the ground nd the position, but the superiority of the artillery that is ecisive. If, by the choice of the battlefield, the use of one f the enemy's two principal arms can be precluded, whilst oth remain available on our side, we shall be in possession f an advantage which can scarcely be counteracted by perior numbers. But in this case the condition must be lfilled, that the enemy is compelled to attack by great nterests at stake. Otherwise, by eluding us, or turning our ank, he will deprive the strong and advantageous positions f their advantage for the defence.

High and commanding points, villages situated on hills,

etc., which strike the eye from afar, and which, therefore, will be recognised at once as positions of strength, as keys and supports, have in these days the very serious disadvantage that they naturally attract the enemy's fire, and are difficult to hold. They become the mark of all the guns and rifles of the attacker, and their garrison, in the place of an expected protection, perceives only a rapid increase in its own losses. Plain ground, possessing a few advantages, is to be preferred.

This brings us to the subject of artificial means of defence. In view of the intensified fire effect of modern weapons their value is certainly undeniable, but is nevertheless merely relative. The outskirts of villages prepared for defence, trenches on high ground, strong barricades, and similar defences, afford the infantry behind them some protection against bullets, and thus enable them to fire with composure and deliberation. But, on the other hand, they attract the attention of the enemy, and will cause him to be more thorough in his artillery preparation than, perhaps, he would otherwise be in the heat of the conflict. Every prominent mark is an advantage for the assailant; it facilitates his leading, makes it possible to estimate ranges with greater exactness, and thus more than counterbalances the advantages accruing to the defence. In ordinary trenches the casualties become very heavy unless they are carefully concealed from view by covering them with turf, corn, or weeds, and thus giving them the colour of the adjoining ground.

Hence in the selection, the inspection, and the preparation of a position, the question of fire effect must be paramount.

Next in importance are considerations of unity of command. Any impediment in this regard arising from the nature of the ground constitutes an undoubted disadvantage for one of the parties concerned. In this connection the character of troops is, however, a material factor. If they are accustomed to independent action, and if the subordinate commanders are capable and enterprising, the import of such disadvantage will be considerably diminished.

In intrenched positions, moral effect is also a material factor, frequently more powerful than its actual importance warrants. The consciousness of being led against entrenchments inspires the soldier with uneasy sensations. He is afraid of meeting with impediments, as against which a

ourage is unavailing. The defender, in his sense of weakess, is inclined to exaggerate the reputation of the strength f his intrenched position, and is very apt to meet the ready upport of the uninitiated, by reason of public interest in eld works. When a newspaper reporter gains access to them, e attaches great importance to his discovery, and supplements reality from a bountiful imagination. Every one who fought on the Loire will readily recall to mind the descriptions of the intrenched camp of Orleans, of the batteries f ships' guns of heavy calibre, the iron gates, the wire enanglements, the double and triple lines, the mines, and ther horrors, which appeared in the French, and subsequently in German and English newspapers, and will also emember that they were not quite without effect. The noral effect produced by reports of strongly fortified positions an, therefore, be put to good use to deter the enemy from n attack upon a particular place. This was the object of he entrenchments eventually made by the Germans south of Orleans; for, considering the weakness of the troops garisoning them, it could not be seriously intended to defend hem, after the army had turned westward.

Appropriate use of the features of the ground or of entrenchments tends to promote that economy of forces which becomes oubly important when battle is impending. Naturally strong ortions of a position are weakly held, by which means extra trength can be gained for other than purely defensive purposes.

The necessity and utility of strong reserves is often spoken f. This dogma stands in close relationship to that of the radual consumption of the combative forces, and is regarded as unassailable. Hence, even in peace manœuvres, ve may frequently see an attack by great masses of infantry, f which only a small portion is in extended order and actually sing its weapons. All the rest follow in close formation vith drums beating and the shout of hurrahs, as though that vould suffice to disperse the enemy. Every reserve represents dead force.* Soldiers marching in rear of the lines of skirnishers do not inflict any damage upon the enemy, and at

* We do not mean here those small compact detachments which, t the beginning of an action, are held in hand in order to serve as eeders in the course of the battle, as need arises, but those larger livisions which the general reserves to himself to employ according to he ideas which suggest themselves during the action.

most help their side only by the fact that their presence tends to raise the courage of the real combatants. The reserves are not of use until they are brought into action. Since the simultaneous employment of all the forces yields the highest effect, it might even appear to be a mistake to detach reserves at all. But they are required to meet unexpected turns and emergencies in the battle, which are always bound to occur. If the situation is still so very uncertain that it is believed necessary to be prepared for many surprises, the reserves will, of course, be made strong. As the situation clears up, and the conditions on the side of the enemy are seen more distinctly, the strength of the reserves will be reduced proportionately. A situation is even conceivable in which it would be quite correct to dispense with reserves entirely; for instance, when the enemy's strength is exactly known, and his forces have been deployed in their entirety. However, such eventualities never occur in reality, and, therefore, we must never fight a battle quite without reserves. But the fact remains, that *strong* reserves are not invariably the most practical, but reserves which correspond to the existing situation. Excessively strong reserves are not the result of a good, but of a decidedly bad system of economy, being simply a wasteful scattering of forces, which frequently remain unemployed, whilst they might have ensured a favourable issue of the battle. "Generals who keep fresh troops in reserve for the day following the battle, are almost invariably defeated. If necessary, the very last man must be brought into action, because, on the day following a complete victory, no impediment remains to be surmounted; the respect in which he is held alone assures the victor fresh triumphs." Great generals—as, for instance, Napoleon, the author of the preceding quotation—have been renowned for the able use of their strong reserves; but the praise bestowed on them should more correctly have been given to their general ability in using all the means at their disposal to the best advantage. With only a part of their army they involved their opponents' entire forces in useless fighting, and then with the rest, as with a second army, the product of wise economy, they began to carry out their original plan of battle. Here all idea of a reserve disappeared because a definite *rôle* had been originally assigned to the troops not engaged in the first phase of the battle.

The smooth concatenation of all the various acts in the execution of a plan is of supreme importance in battle. This sounds quite a matter of course, but, nevertheless, it is not so, for the history of many modern battles shows that this has actually been wanting. Artillery were brought up after the infantry had been broken against an obstacle. Fresh troops were only brought up for the decisive stroke after those in front had been so far used up that they could be of little or no assistance in the most critical moment about to ensue. The cavalry was called up, when the moment for a charge had already arrived, whereas this ought to have been done when that moment was approaching. Presence of mind has, as a rule, been found less wanting than prescience. This latter springs from experience, practice, and that height of equanimity which, even in the hours of the greatest excitement, leaves itself time for mature deliberation. It is, without doubt, difficult to be in the midst of action, to be entirely absorbed in the events of the moment, and, at the same time, to foresee what is likely to come, to think of what must be done, and to prepare accordingly. Yet this is precisely the task of generalship. If we have often, in our recent campaigns, seen an engagement as the result of a sudden encounter, that the troops were hurried into action just as they arrived on the field, that their efforts were divided, and that, owing to want of co-operation, the losses were unnecessarily great, the experiences thus gathered will surely not be wasted. *The action of the future will demand more thorough preliminary preparation, a clearer conception of the object to be attained, a more careful arrangement, a more intimate co-operation of all three arms, and the simultaneous employment of all available troops to decide the combat.*

10. *The Battle*

The essential feature of war is the battle. It forms the crisis which decides all questions at the moment in suspense. It is the sword of Alexander which cuts the Gordian knot. Each battle marks a new epoch in the campaign. A single great battle has often solved the whole of the complications, as did that of Königgrätz in 1866.

The attacker seeks to bring about the battle, the defender knows that he cannot permanently avoid it, and accordingly

prepares for it. He expects it, and will desire it at the moment when attendant circumstances render his position more than usually favourable. It is his sole means to better his position and free himself from the crushing weight of the attacker.

The battle, accordingly, will always be the pivot on which all warlike events will turn. If the Great Continental Powers can place twenty army corps and more into the field, there is no reason for assuming that the greater part of them will not be found on the battle-fields, upon which one day the fate of nations will be determined. Of what, under such circumstances, the appearance of the battle-field will be, even Gravelotte, Königgrätz, and Leipzig fail to give us a complete idea. Its aspect will be altered, not merely by the increase in the number of combatants, but modern weapons, and the tactics therefrom resulting, will no less be of influence. The theory of war points to restricted space and narrow fronts, in order to obtain the proper depth and, with it, the proper weight. Practice pleads irresistibly for extension, so as to enable us to bring all our excellent rifles and guns into play in the line of battle. *Practice is here the stronger part, and extended fronts will be the rule.*

For the present this future battle of the nations still remains for us a Sphinx with unsolved riddles. Technical science strains every nerve to discover new means of increasing the influence of the supreme commanders, and to lighten their ever-growing task. If only their hold on the course of the battle, as it existed at the time of the linear tactics, could be restored, the weird aspect of the new phenomenon would disappear. During an action the commander-in-chief obtains but an imperfect knowledge, from the reports sent to him, as to the course of the various separate battles which are being fought upon the common field. As we have already stated, it is more in his power to rouse the storm than to control it when once aroused. One day a God-inspired genius will appear, who will find his element in this struggle of the future, and will control it. But for the present we are face to face with a problem, which is rendered the more difficult since peace exercises are but an imperfect preparation in this respect, and give no opportunity of gaining experience. Even the greatest manœuvres, for economical reasons, are restricted to the independent operations of a reinforced army

corps, or of two army corps, with one or two cavalry divisions. These manœuvres, the value of which is frequently disputed, represent but a feeble effort in comparison with the proportions of modern war. The theoretical exercises do not go much further, as they are intended to teach the elementary principles of the higher leading in war. Only the schemes worked out during staff tour under the direction of the great general staff are of a more advanced nature. There thus remains a gap in our system of training for the higher commands. Since the mobilised armies of the future will assume hitherto unknown proportions, the commander-in-chief cannot possibly attend personally to all details; he must needs restrict himself to outlining his general intentions, leaving a great deal to the initiative of his subordinate commanders. That being so, the need of building up a system of rational independent action is the more apparent. Hence manœuvres should be held as frequently as financial and industrial considerations permit. It is also desirable that larger combinations of reserve troops should take part in them. In case of war we rely upon them as much as upon troops of the line, and impose upon them the same demands and exertion, without, however, assuring ourselves in good time that such demands are realisable. Our reserve divisions would certainly gain in cohesion, and their commanders in confidence and in experience.

The habit of command and a quick eye are acquired at peace manœuvres in a higher degree than is commonly believed. If, as we have already seen, it will be more difficult in future to gain a primary grasp of the situation, it will also be easier to follow its further development, and the occasions for the independent action of army corps, division, and brigade commanders will be multiplied. These commanders should therefore have greater opportunities of practice than are at present afforded. *It is desirable that small armies should manœuvre for the purpose of training their prospective commanders, and that large ones be handled theoretically*—for no master of the art falls from the sky.

A material distinction must be made between a battle which often takes place by pure chance, in the course of the movements of opposing armies, and a battle before which both parties have been in close touch for some time, and have been able to reconnoitre and make definite plans for

the coming conflict. Meckel aptly describes the latter as the "premeditated battle."

Generally speaking, the duties of command in a premeditated battle are simplified; whilst the execution by the troops of the assailant is rendered more difficult, as the enemy also is prepared, and, if he intends to act on the defensive, he has already chosen a favourable position, and, possibly, has fortified it. In the chance encounter the duties of the supreme commander are more difficult. He has not had time to make his preparations, and must, accordingly, improvise his measures. He finds himself in the face of a certain situation, makes it his starting-point, and must immediately make cogent resolutions, without being previously able to gain much information or procure a thorough knowledge of the ground and of the enemy. The soldiers, on their part, have generally an easier time of it, since they do not find the enemy in prepared and appointed positions. The advantages of ground are about evenly balanced on either side.

Let us now follow the course of the chance encounter, as we know it from the experiences of our last wars.

The enemy, the evening before, has quitted his positions, and begun fresh movements, the object of which is not as yet quite clear. We attribute to him the intention of withdrawing, without fighting, behind an adjacent line of defence, and hope to anticipate him in his movement. It is possible that we can come up with him earlier, but it is not considered probable. Under these auspices, the commander-in-chief issues his orders. A rapid advance is ordered, for haste is imperative. Yet battle is not mentioned in precise terms; only the general intention of catching the enemy is expressed. This outline is quite sufficient for the subordinate commanders. Special dispositions relating to reconnaissance and mutual support heighten the expectation of coming events on the morrow in a more than usual degree. The cavalry start out as soon as the sun rises above the hill tops—somewhat earlier than usual—followed by the army corps in column of route. For a time the march proceeds without incident. The men in the ranks already imagine that the enemy has made use of the night in order to gain a start, when suddenly first reports of the enemy's proximity arrive. Isolated shots are heard at the same time. We have met with weak outposts of

the enemy, who have rapidly retired and disappeared behind bushes, houses, and trees. It is still once more, only soon to be lively again. Reports come in more frequently, now bringing intelligence not of mere detachments or outposts of the enemy, but of a column on the march, or perhaps even a camp. The opportunity for a nice stroke appears to present itself; there is the possibility of separately defeating a part of the enemy's forces, of forcing it back, or even of annihilating it. The commander of the advance-guard has ridden ahead to the cavalry, posted in a depression of the ground. From the elevation ahead, the enemy can, it is said, be seen. He there meets with the superior cavalry officers, and the chances of the moment are discussed. The whole advance; it is generally known that the enemy is to be engaged, and all are agreed that the favourable moment must not be lost. An orderly officer dashes back with an order for the battery of the advance-guard to push on. But it is already coming up. The chief of the battery had made a survey from an elevated position on his own account, and had commanded his guns to pass ahead of the infantry, which makes room for it on the road, so far as necessary. A battery of horse artillery has been brought up from another side. Both drive into position, and the first shots follow in rapid succession. The enemy is considerably surprised, the stroke has decidedly succeeded. The battle fever, not to say hunting fever, rises in the brain of all concerned in the enterprise. The troops receive orders to hasten their march. The foremost battalion has made grand strides; covered with dust it moves to the attack, its commander at its head. It comes up in the nick of time; for the batteries, which, so far protected by the cavalry, had made such splendid practice, have now come under rifle fire. The general now issues an order in somewhat vague terms, to the effect that the battalion is to cover the flank of the artillery, and drive off the enemy. The commander of the battalion, who is but little informed as to what has passed, does not care to ask many questions, as others are already putting too many. He sees that his superior officer is somewhat excited, at all events very fully occupied. He tells off his companies, and shows them the direction, whence bullets fly over their heads. A wood, an eminence, or a farm form objects easily pointed out, and in his haste he chooses this *faute de mieux*. Loud shouts of command

become somewhat more frequent; a few misunderstandings as to the general direction are bound to occur, and take up mind and tongue. In the meantime we approach the enemy, and his rifle fire rattles hotly and unexpectedly about our ears. He has occupied the places upon which we were advancing in still greater force. Our losses become all at once very great, another reason against hesitation. Our sole object is to advance quickly, and, in the hot fight, our companies, melting away under the heavy fire, sweep onward in extended order. They finally assail the enemy with determined courage and dislodge him. But he reappears in many places, and even one of the enemy's batteries replies to our fire. The battalion next coming up has received orders to protect the other wing of the artillery, and its fortunes are the same as that of the first, which we have accompanied in spirit. The commander of the first regiment, in trepidation, because two of his battalions are separately engaged in a hot fight, follows with his third battalion one of the two already in action, in order thus, at all events, to keep two together. Soon the whole infantry of the advance-guard—we assume its constitution to be of the normal type—is involved in a lively action. The enemy is stronger than we at first supposed. Several batteries on his side are firing.

A movement is visible on the hill, upon which the generals are standing. The senior commander present joins them. At first sight his face seems to wear the expression of disapprobation. But he listens to reason, and finally approves of what has been done, as, in any case, nothing can now be altered. His first care is to ensure the somewhat wavering equilibrium. The general of artillery is at hand, and the batteries of the corps artillery are brought up, and they also dash ahead of the infantry. A short time since a new phenomenon has manifested itself on the enemy's side. Beyond a wood bordering on the horizon a pale grey glimmer is seen; it is a matter of speculation whether it be a cloud or dust. Now all doubts are at an end; it is the dust hovering over a great column advancing. Now the only question is whether it must be taken to mean a division or an army corps. The commanding general considers it advisable to inform the nearest army corps of his own army of this fact. Adjutants dash in all directions with short notes in pencil or with verbal messages.

Now let us pass to the commander-in-chief.

He has left his head-quarters of the morning in the old place, in order that office work may still be carried on. The removal to a new site is not to take place till midday. The reports of the day's advance are somewhat anxiously awaited, but as yet no battle is expected. Suddenly the news spreads that the distant sound of guns is heard. It ceases for a time, and is then renewed. The significance of the occurrence is discussed. Frequently it is uncertain whether the firing is from one's own army or from a neighbouring one. A few disengaged officers have mounted the heights surrounding the little town, and, on their return, assure their comrades that they could clearly distinguish rifle-fire also ; the fighting appeared to them to attain even greater dimensions, and to be of a more serious nature. At last a definite report arrives. It is the same which was despatched by the advance-guard of the corps in action, when it believed it only saw advanced detachments of the enemy before it. The contents of the message, therefore, speak of weak detachments of the enemy that have been alarmed, and which are now being pursued. It is only an insignificant skirmish—such is the interpretation of the message—there is no occasion for fresh measures. All excitement is calmed down again, interest is lost for a moment. After the lapse of barely an hour, the news arrives, which the commanding general despatched after having personally reconnoitred the positions. It speaks of large masses of the enemy, but cautiously leaves it uncertain whether they are superior in numbers or not, and ends with the communication that the army corps will attack in full force. The scene becomes more serious ; the thunder of cannon is reported more vehement. An officer belonging to the general staff of another corps, who happened to be at head-quarters, is despatched with a message to the general commanding his own corps, in which the possible desirability of early support to the troops engaged is pointed out. As yet it is not known whether such a step is necessary or not ; but prudence dictates timely provision for the contingency. An officer of the staff dashes off to the scene of conflict. Shortly after, the din of battle becomes louder ; it has not receded. The horses are now sent for on all sides ; the march into the new head-quarters is abandoned. Further intelligence from the field of battle is altogether wanting—always a significant sign.

After a lengthened pause an orderly arrives. But he does not come from the corps under fire, but from a corps not previously engaged. It announces that it has abandoned its prescribed line of march in order to dash with its full strength to the battle-field, where assistance appears to be urgently wanted, and that all other troops within reach had also been informed. The word " battle-field " produces a great stir.

The commander-in-chief rapidly dashes off in the direction of the sound of the guns. After some time he comes up with troops marching quickly towards the battle-field in sombre silence. Each man collects all his strength for what is coming. The sight of the commander-in-chief and his suite first breaks the silence. A loud hurrah peals from the ranks. Soon the first wounded are met with; then a troop of prisoners, frequently under a very large escort, as though to make doubly sure to bring in these first results of the battle quite safely. A larger troop follows, and the number of wounded also increases. From the nearest heights columns on the march wind downwards, all bound for the battle-field. Now they turn aside from the main road into a valley leading up to the battle-field. The signs of a serious battle in the immediate vicinity are unmistakable. Prisoners are met in growing numbers. Dressing stations are established on both sides of the road; field-hospitals and ambulance columns display the greatest activity, wounded being brought to them in large numbers. Trains halt under cover, thickly crowded together in any open spaces. Ammunition columns are called for by officers galloping in from the battle-field. The dull sound of the cannon and the rattle of the rifle-fire are blended together into one uniform and continuous roar. Above the wooded hills on our right the enemy's shells and shrapnels are bursting, their small clouds of white smoke standing out sharply against the sky. Hurrahs greet the fresh arrivals on all sides; it is scarcely possible to gather details of the situation from a few scarcely intelligible words spoken by a senior wounded officer.

A few minutes more, and the small knot of horsemen halts on the hill upon which, a few hours before, the batteries that opened the battle were planted. The great number of dead and wounded shows how serious the battle has raged here. Our troops have gained some ground, but have not advanced very far. The picture of the battle-field unrolls itself to the

eyes of the commander-in-chief. Long lines of artillery face and batter each other. Thin lines of smoke, drifting across the slope of the heights held by the enemy, denote the chains of the enemy's skirmishers, advancing at one point, falling back at another. Now and then, compact bodies of troops are seen cowering in folds and hollows of the ground. On the side of the enemy, masses of troops are moving behind the front. Dust, and the smoke of powder and of burning farms, lies thickly over the battle-field, and does not permit of the object of the moment being clearly distinguished. At a still greater distance, compact masses are descried. It is not possible to see how far the flanks extend, but the sound of fire denotes that they stretch beyond the radius of vision. A general, brought up for the purpose, gives the commander-in-chief information as to the preceding course of events, so far as they have come to his knowledge.

No doubt remains; what lies before us is not a mere engagement, but a decisive battle.

The general features of this sketch will be maintained in the future also, though its latter portion will be somewhat modified.*

In such a situation, the commander who is first to arrive at a definite decision as to the further conduct of the struggle, is bound to gain ascendancy on the field. This is not so easy as it may sound to one who does not know what war is. The commander-in-chief is called upon to give a number of decisions relating to the details of the action on the spur of the moment. Here, a body of troops advances without cohesion with the rest, and must be kept back; there, another regiment is retiring from an important position, and needs support. A third begs for reinforcements; a fourth reports want of ammunition, and a fifth that his flanks are threatened. The cavalry commander asks whether he is to take part in the infantry fight, as he considers the right moment has arrived. The general of artillery wishes to change his positions, and wants to know whether this is in harmony with the

* We must imagine the powder-smoke as non-existent, and substitute for it the barely recognisable dark lines, which denote chains of skirmishers, and the faint figures formed of three small dots, scarcely distinguishable from bush or tufts of grass, which suggest the presence of guns in the distance. The short flash of the first discharge will generally convince us that our eyes have not deceived us.

intentions of the commander-in-chief. Many such, and even less important, questions are forced upon the commander-in-chief, and, among all these numerous details, he runs the risk of losing sight of the general direction which he should give to the action. The only safeguard of the responsible commander in this respect lies in that power of resolution which subordinates minor details, and formulates all orders and instructions with a view to the furtherance of the main object. Thus, all the numerous forces assembled on the battle-field receive a common direction, and are impelled towards this one end. Their joint and harmonious efforts will prevail whenever the enemy's forces lack unity of purpose, and the commander hesitates and loses himself in details. The great predominance of a specially gifted commander over a merely good experienced general will be most plainly seen just here. The former may, perhaps, go wrong in trifling matters, may, on some occasions, give a body of troops faulty instructions, but he will not fail to arrive at a prompt decision in great questions. "Le bon général ordinaire," as the French style him, may give to each battalion, each battery, and each cavalry regiment, most admirable instructions regarding their individual share in the battle, but internal cohesion will be lacking. All the troops do their work excellently in the sphere assigned to them, but one will pull to the right, the other to the left. If the discipline of the intellect in an army is not of a sufficiently high order, to ensure unity of action without the interference of the supreme command, a frittering away of forces is bound to ensue.

If the campaign has been opened on a rational and firm basis, the plan of the battle develops itself immediately out of the ideas underlying the previous movements of the armies. In battle, the truth of the old rule is proved; viz., that each side fears the other. The commander who first disencumbers himself of this sentiment and makes himself morally master of the situation, will surely be the victor; for the forces superior to all others are those which work upon the mind, filling it either with fear and anxiety, or with proud confidence.

Now it is by no means indisputable that the plans of a commander-in-chief are necessarily the best possible on all occasions. If the whole situation could be reconsidered in a

study at home, a better plan would be found in many cases. But any practical plan is sufficient; only it must be unswervingly adhered to, and even the least important order must be calculated to advance it, until the penetration of the commander-in-chief leads to a better one. In the dispositions, which vary according to circumstances, there only remains to follow the general principles applicable to every battle.

The case is different with the *premeditated battle.*

The troops have been concentrated, in obedience to higher orders. In preliminary engagements the outposts of the enemy have been driven back upon the first line of shelter trenches, and upon villages, artificially prepared for defence, where stronger bodies take them up. The armies have now come within close touch of each other, and stand face to face, like two combatants with crossed swords. The one is still engaged in hastily strengthening his lines, while the other is awaiting the last divisions of the army, which are coming up by forced marches. At last all is ready. Throughout the whole day patrols have never lost touch of each other. It was very difficult to check the resulting infantry skirmishes, so as to prevent a premature development of the battle. At night the reflection in the sky of many fires shows us that the enemy is in our proximity. The generals move their headquarters to the front, perhaps spending the last night in one of the bivouacs. Every one feels that the decisive day has arrived, and makes his preparations accordingly. Each side knows the other to a certain extent, so far as general strength and extent of front is concerned. The main forces are certainly still kept back carefully, and concealed as well as possible, though each side endeavours to ascertain their distribution. Finally orders are given for the battle, which has become inevitable owing to the constant friction between the two armies. The leading idea stands at the head of the orders, and is in harmony with the result of previous reconnaissances, ripe deliberation by a small group of distinguished men, and long preliminary labour. Here also it must be assumed as a natural consequence that it corresponds logically to the general views and intentions respecting the conduct of the whole war. With good leadership it may also be taken for granted that all practical preparations of a general nature have been duly initiated. Consequently a favourable issue would seem to be absolutely certain, providing the calcula-

tions as to numbers are correct and the troops are brave. The decision, however, lies elsewhere.

No battle takes the exact course as planned. Each has its surprises, and takes a turn somewhat different to what was intended when the original measures are generally no longer applicable. It is thus the affair of the supreme commander to discern the moment when he must depart from his programme and improvise fresh measures, when he shall abandon what would be theoretically correct, in order to do what at the moment proves itself to be of practical advantage. That is difficult; it is not easy to obliterate the picture of our imagination as to the course of a battle.

The battle of August 18, 1870, was a premeditated one. But it also took a different course from what had been anticipated. The right wing of the enemy was not where it was assumed to be. Our intention, not to make a serious attack upon the front until that flank had been turned, was frustrated by the fact that the 9th Army Corps became too deeply involved in a premature decisive struggle. In this case, partly on the initiative of the supreme authorities, partly on that of subordinate commanders, an appropriate modification of the old plan was adopted. A general and more determined attack was made in front, whilst the outflanking operations were extended more widely in a northerly direction. Thus the original object was attained by new measures.

In the preconcerted battle, accordingly, it is essential that the general should carefully consider, and provide for, the execution of a provisional leading idea, but this should not prevent him from observing the actual course of events with an open mind.

The tenacity with which he adheres to his original plans, all obstacles and untoward incidences notwithstanding, till calm and clear deliberation produces a better one, must be tempered with a certain elasticity of mind, which enables him to follow in the new direction unhampered by the influence of earlier opinions. The force and rigidity of his will, will, in a sense, be more severely tried than in the case of a chance encounter, since the danger and the possibility of failures and alarms of all kinds have been recognised and weighed beforehand, and have had time to operate upon mind and imagination. Rapidity of resolve is, however, less essential, and will barely be demanded in the early stages of the operations

A chance encounter and a premeditated battle thus put the genius of the general to entirely different tests, and his genius may prove its mastery in the one, without necessarily showing itself also in the other.

The latest great battles have been decided by an enveloping attack upon a flank. Herein is expressed the same idea as that underlying the attacks of Frederick the Great by his oblique order of battle, an idea upon which all tactical plans should be based. It is not intended to attack the whole of the enemy's army with the bulk of one's own, but only with part of it. As the attacker is generally victorious, when he asserts his superiority at only a single point, this point of view is the correct one, which will reassert itself under one form or another in every attack ; and the future is not likely to bring a change. Only we must now no longer, as in the last century, leave the part of the enemy's army which is not to be pressed quite unemployed. It will be necessary to attack it with determination, in order to hold it to the spot. The mobility of troops, and the independence of the individual leaders, have become so great, that it can no longer be expected that one half of an army on the defensive should look calmly on, whilst the other half is being defeated. Both must have something to do. The demonstrations and feints, by which this end was formerly sought to be attained, not always unsuccessfully, are based upon very antiquated notions, and will, as a rule, fail in their object. Engagements take too long a time to develop, reconnaissance has become too active, and leaders are generally too well informed to allow a long life to deception by such feeble means. The preliminary skirmishes which form the first act of a battle must be of a uniform and serious character, if they are to induce the enemy to make a blunder. The arm which here plays the chief *rôle* is the artillery. A vigorous artillery-fire, initiated by the attacker, may be taken as the preliminary to a decisive attack by infantry, as well as be the means of concealing and facilitating movements towards other points. The views formed by the defender, and upon which depends whether he adopt right measures or wrong, will frequently not spring from the impression produced by the battle, but result from other circumstances. The strategical situation, the enemy's habits, fortuitous circumstances, news obtained previously,

considerations of retreat and of communication with the other divisions of the army, all play their part. In the excitement of the moment, such factors may cause even a capable man to make calculations which will be falsified by succeeding events.

Meantime preparations for the decisive struggle are completed by the attacker. Hidden from the enemy's view by the nature of the ground, or escaping his notice by the conflict already raging in front, the masses move in the direction of the point at which it is the intention to decide the day. The dust overhanging the field, and the din of the battle, are the allies of the determined attacker, as they help him to approach the enemy's position unseen. In the future, also, the object of attack will generally be one of the wings or the flank of a position, since superiority is easiest established there. But in comparison with 1870, a material change will take place. Then, the day was frequently decided by a flank attack executed by a comparatively small fraction of the army, a procedure which will, in future, be utterly impossible. The defender will have learnt from past experience to strengthen his wings, and to secure his flanks by a good use of his reserves. The expectation of finding an easy task in turning a thin, weak flank, and thereupon rolling up the enemy's line, must be abandoned. The fight on a flank will rather partake of the nature of a difficult frontal attack in a somewhat modified form. The defender will, nevertheless, labour under the disadvantage of being compelled to fight upon a field where he had not prepared for it. He must, besides, bring up from a great distance a part of his still available forces. The attacker has anticipated him in the resolve, and the measures required for its execution, but, on his part, it is now necessary to employ against his opponent's wing and flank, not fractions, but the bulk of the army. If, hitherto, three, four, or five corps have held the front of the defender in check, and one, or half a one, outflanked him, in the future, the smaller numbers will have to be employed for the first, and the larger for the second object. The *rôles* must be reversed.

That, however, is easier said than done. In the first place, the small number of the army corps operating against the defender's front will most frequently find themselves hard pressed, since a considerable numerical superiority will have

to be dealt with, and the opponent may resort to a vigorous counter-stroke. Even though this is a difficult undertaking, yet the attacking general will always have to reckon with the possibility of it, and the firmness of his resolution will thus be put to a severe test.

Then, again, it is difficult to move the great masses which execute the outflanking operation within a definite space of limited dimension, without bringing them into confusion. Everything must work with the precision of clockwork, and opportunities of display of skill and experience in the cohesive movement of considerable compact bodies of troops will be more frequent than in our last wars. Napoleon often advanced in the morning in a single direction with forces considerably exceeding the strength of an army corps, and engaged at midday with his entire strength, after having performed a good march. Even old Prussian parade tactics knew how to march 20, 25, or 28 battalions such great distances in close formation, and to bring them in a body to the same point for combined action. All that will again become necessary. A shortening of the columns by marching on a wider front, the movement of the artillery and cavalry *upon*, and of the infantry *alongside* the roads, in a word, the advance of deployed masses will, in the future, alone make it possible in many cases to concentrate the numerous forces within the given time upon the point where the decision is expected. The day of battle is an exceptional occasion, and requires accordingly exceptional measures. The broader roads admit of marching in column of half-companies, and the depth of a division will be shortened to less than 2½ miles. The veil of night may also favour the attacker, by screening his preparations from the watchful eye of his opponent, and by permitting him to approach closer to the hostile position, which, if done in daylight, would entail considerable loss. But no means must be left untried of shortening the distance to be covered in the attack under the enemy's fire, not so much to avoid losses, as to ensure the strength and energy of the army being weakened as little as possible before the final blow. It was on the morning of September 1, 1870, the second day of the battle of Noisseville, when the news was brought that during the night the French had attempted to storm the villages which had been disputed on August 31, and on that occasion Prince Frederick Charles first stated that we should often in

the future have to resort to taking at night well situated and strongly fortified places, which modern fire renders almost impregnable in daytime, and then to hold them the following day. The help of night will, at all events, prolong the time, usually too short, for preparation for battle. It is, of course, understood that all abnormal measures are not to be resorted to during the movement of troops, except in cases of urgent necessity, for they harass the troops and consume part of their vigour, the whole of which it is necessary to preserve. Battles extending over several days will, however, seldom pass without movements by night.

Decisive action upon a wing or a flank must be brought into proper harmony with the movement against the defender's front. In view of the great dimensions of armies, and of command being vested in so many hands, such accord is only attainable by thorough and careful preparation. The decisive blow must not, however, follow close upon the preliminary skirmishes, in order that time may be given to the defender to commit blunders. Neither must it be too long deferred, since otherwise the want of serious intentions in the preliminary actions will be perceived, and they will miss their object. A quarter of an hour too much or too little may be of the greatest consequence, and determine the issue of the battle. Once it is considered that the moment for the decision has arrived, it must be sought to bring it about quickly in order to deprive the enemy of the time requisite for making a change of front. Care must, moreover, be taken that while the decisive struggle is proceeding on a flank, the fighting in front does not flag, but is continued with even greater energy.

The general must banish the fear that, by making an outflanking attack upon the battle-field, he cuts himself off from his natural line of retreat, more so than in outflanking movements before a battle, otherwise his resolution and his energy will both be weakened. All his thoughts must be directed ahead. *He who fights the enemy, who is before him, with his full force secures his line of retreat best.* The battle is so much above every other consideration, that all doubts tending to diminish energy in carrying out the plan of battle must be silenced. A good general, in launching his masses for the decisive blow, will never stop to consider his movements in relation to his natural line of retreat, but will only be con

cerned in the direction in which his forces can act with the greatest rapidity and to the greatest effect. It never occurred to any one in the German army at the time, that, on August 18, 1870, we were fighting a great battle with reversed front, and that, in our outflanking attack upon the French right, we had completely cut ourselves off from our established lines of communication. All attention was centred forwards in victory, and not backwards in retreat, which explains the vigour of the attack. Thus it must be always.

In this sketch of a battle we have instinctively described an offensive battle. What German soldier would do otherwise ? But love of system compels us to speak of a defensive battle also.

The attacker dreads the front, whereas it is the strength of the defender, of which the latter must always be conscious. If he has disposed his troops in such a manner that the ground in front is everywhere exposed to a vigorous fire, he must here, at all events for one day's battle, be able to do almost without reserves. But as he must be aware that the enemy will surely seek a second field on one of the wings or in a flank, he must keep the bulk of his reserves in readiness there.

Fire effect decides the victory, but nothing favours it more than the enveloping manœuvre, which confines the enemy to the narrow space of the battlefield, surrounds him, and exposes him to the effect of a cross-fire. The encircling grip of a battle like that of Sedan, displays this annihilating effect in the highest degree. Colonel Blume rightly concludes his treatise upon Defensive and Offensive with the words : "The *enveloping and simultaneous* advance of all our forces against the front and flank of the enemy, gives the best guarantee for the ascendancy of the attack over the defence."*

Outflanking attacks, if too weak, will, in the future, certainly fail in their object ; if made in sufficient strength, they may be defeated by the independent action of troops detached beyond the flanks of the position, or by reserves stationed behind the wings of the defender ; while rash ventures of this description will be duly punished by an effectual counter-stroke. But that is not sufficient reason for condemning flank attacks, and the tendency in this direction, on principle. If we were again to train our troops to hurl themselves against

* *Vide* Blume, "Strategie," p. 170.

the front of their opponents, as has been recommended by certain busy writers, we should harvest defeats instead of victories. The ardent opponents of outflanking movements, besides fear of dispersing the forces and the resulting confusion of units, also entertain a vague idea that, after a great war there must be a complete revolution in tactics. The absurd manifestation, so often observed in the period of peace following a brilliant campaign, of the victor gradually falling into the errors of the vanquished, disregarding his own approved qualities, is traceable to the same idea. The opposite of what has proved its excellence is adopted, merely because it is the opposite. A leader who has found a source of great strength in allowing full scope to individuality, suddenly begins to attempt to restrict the freedom of action of the individual; another who, thanks to an unfettered common-sense method of command, has always assured well-timed uniform action, subsequently has recourse to schedules and forms; a third, again, who conquered by a ruthless use of his forces, now preaches the art of avoiding losses. He who has learnt in war that his cavalry could only play a subordinate *rôle* in the issue of a battle, places his future hopes upon great cavalry attacks; having seen the weary and exhausted enemy entrench himself, he now recommends the energetic use of the spade. Every, even the best, thing has its disadvantages; and these are clung to by the "innovators for the sake of innovation," who thus jump from the frying-pan into the fire. Or they think to perceive in everything that fails the germ of some new force, which merely needs stimulating and contains every guarantee of future successes. It thus came to pass that the frontal attack and the direct piercing of the enemy's defences were much lauded after 1870, notwithstanding the fact they did not lead to victory on any of the battle-fields in France. In their restless desires these false prophets lose freedom and impartiality of judgment, and they are the authors of the perverse and sophistical theories of war, which are invariably followed by reverses.

Great wars will, as a rule, bring about changes in warfare, but such must not be intentionally sought after; they will obtrude themselves from simple causes by virtue of their natural necessity. Outflanking attacks, it should be said, must be regarded as the *most effectual*, but not as the *sole* means of

victory. Cases will occur where outflanking movements are excluded by natural or artificial obstacles. Entrenched positions between detached forts are always such as cannot be turned, and therefore must be taken.

The attack in front may, under certain circumstances, be unavoidable, but this does not mean that the entire front must be attacked with equal energy at every point, since by so doing, the first principle of all generalship, which is to bring the mass of the forces to bear upon a decisive point, would be violated at once. He who shows himself *equally strong* at all points, is at the same time everywhere *equally weak*. Hence, the serious attack will be made upon one of the flanks, the front meanwhile being kept engaged by fewer troops, as a decisive success can here be dispensed with. It will seldom be possible before the battle to concentrate the troops which are to deal the decisive blow in front of the wing chosen for this purpose, without its being perceived by the enemy. This will, as a rule, have to be done during the battle. The artillery preparation for the attack has also the object of diverting the enemy's attention from the movements which are proceeding in rear. The concentration of troops for the main blow must not take place till a large number of batteries are in action along the enemy's front, unless it be that, in choosing his position, the enemy had to leave open a number of safe and concealed approaches. The attention of the enemy will become more seriously engaged, the closer the troops operating against his front approach to his position, and the easier it will be to give him the impression that the fighting, which is really only intended to withdraw his attention from the threatened point, is meant to be decisive. But the danger for the troops engaged in this feigned attack grows apace as they come within reach of the enemy, who may resort to counter-strokes, and thus introduce an unexpected element of seriousness into the frontal operations. The remedy recommended to the attacker in such a case, namely, to cause the troops engaged in the frontal attacks to resort to the spade, and to entrench themselves in the face of the enemy, and to present a firm barrier to his attempts, is dangerous in so far that the enemy will soon gather from such precautions that a decisive attack is never meant; but the proposal must, nevertheless, not be rejected unconditionally. A repetition of it may even be necessary,

until the troops have advanced close enough to be able to deal the final blow without having to pass an unduly wide open space.

The attack upon a wing, if successful, will generally assume the form of an enveloping movement in the further course of the fighting, because the impulse to roll up the enemy is quite as natural for the attacker as the tendency of the defeated wing to seek protection by drawing closer to the centre. The attacker thus gains the requisite space for an enveloping manœuvre, which he lacked in the beginning.

The attack on a wing will, therefore, be of more frequent occurrence in the wars of the future than the attack upon the centre. The latter, the result of which, where it succeeds, is penetration of the enemy's lines and dispersion of his forces, has nevertheless a hard struggle with the natural strength of a frontal line of defence. As we advance we shall become more and more enveloped by our opponent, and this, considering the great range of our modern weapons, means more than it did in the days of Napoleon. In any case, the penetration must be made in proper breadth, the enemy's wings being kept sufficiently employed. This form of attack is compared to a " wedge " driven into the enemy's position, but the simile is no longer applicable, as an insignificant wedge would be pierced from all directions by the fire of the defence, and be speedily shattered. The penetration into the centre of a position demands many and good troops, as well as an iron will, which does not shrink from great bloodshed. In future it will not resemble an attack, but will rather be a gradual worming through the enemy's lines, interrupted by pauses, and resumed again by fresh troops. In this operation, every step gained must be secured during the pauses by earthworks, so that, so to say, position advances against position. Great frontal attacks will in the future all be of a similar character, and extend over several days. The losses thereby caused can easily be imagined. Episodes like those from August 14 to 18, 1870, may be expected to occur in series.

But the greater the crisis, the more important must be the success for him who is fortunate enough to emerge from it. In spite of the sacrifices which it demands, the great decisive battle must, in the future as hitherto, be aimed at; and there is no greater wisdom in war than to put forth all

physical and moral force to bring it to a successful issue. With the triumph upon the battle-field predominance throughout the whole theatre of war is assured. All doubtful points are solved at a stroke, and we become masters of the situation.

11. *Pursuit ; Exploitation of Victory ; Retreat*

That both attacker and defender are often obliged during the battle to separate themselves with the bulk of their armies from their natural lines of retreat, is of less significance than a false theory of war would have us believe. Besides, the present great mobility of armies permits of the ways of safety being regained without much difficulty. To be cut off from the lines of retreat is only serious when a reverse is followed by an immediate pursuit on the part of the victor.

This *immediate pursuit* has not only nearly always not taken place in late wars, but it lies in the nature of the modern battle that it will, as a rule, be absent.

The vast dimensions of the fields of battle, the disruption of the whole struggle into a number of isolated actions and engagements, and the distance separating friend from foe owing to the effect of modern weapons, obstruct a general survey of the whole situation to such an extent that on the evening of the decisive day the commander-in-chief will rarely be able to appreciate correctly the general issue. The fear of a return blow provoked by premature pursuit, and of losing the fruits of victory in the endeavour to make it more complete, will always restrain him. Much is already gained by quitting the field of battle with the knowledge of a victory gained, but the situation will not be completely cleared up till the retreat of the defeated army becomes an accomplished fact.

And so, *under ordinary circumstances*, the day after the battle will dawn before the atmosphere becomes clear enough to enable the supreme authorities to issue fresh orders. But then it is too late for a close pursuit ; and, on the other hand, the supreme command alone is competent to organise a pursuit immediately from the battle-field.

Every battle entails extreme excitement, and the utmost strain of all the intellectual and physical forces. *A state of exhaustion accordingly follows as a natural consequence.* After

a victory, moreover, there is a feeling that further sacrifices are purposeless, or that they would not be sufficiently recompensed by the probable additional results.

Each of the bodies of troops standing side by side in a line of battle will thus, as a rule, wait for the other to commence the pursuit, even though the necessity for it is fully recognised. Each is, as has already been shown, inclined to believe that it has so far performed the greatest share of the common toil and borne the brunt of the day. Each considers its own danger to be the greatest.

The form of the successful enveloping attack, moreover, brings it about that the troops converging upon one point become more and more mixed up. The greatest variety of units becomes mingled like the coloured glass in a kaleidoscope. And this will be so all the more in proportion as the troops show themselves braver and the deeper they succeed in penetrating. It is rare to find at the close of a battle compact bodies of troops in the first line, ready to execute orders. Fresh troops, who have not yet been engaged, will only in exceptional cases come up in time, and those lying farther back will have seen too little to know the direction in which they should pursue.

For that reason we find no immediate pursuit from the battle-field after most of the great battles of the last wars.

Only when the forces have been properly husbanded, and the victory was not purchased too dearly, means of pursuit will be available. They must all be held in readiness towards the end of the battle. The general, constantly absorbed by the pressing cares of the moment, is apt to overlook this point. A proposal has lately been made to charge a senior officer of the general staff with the special duty of making these preparations during the battle, similar to our recommendation in regard to intelligence duties. That certainly sounds reasonable, but as that officer cannot, of course, be entrusted with the disposition of bodies of troops of any magnitude, it follows that his advice will not avail till it has been accepted and sanctioned by the commander-in-chief. The latter is the lever which sets all the machinery of the pursuit in motion.

The cavalry especially must be brought into play. Its commanders are, in the pursuit, the general's principal

assistants. Cavalry more particularly should consider it a duty to act on its own initiative in the last phase of a battle if no orders are received from superior authority. If its chances of success are now greatly impeded during the progress of a battle, its disabilities frequently disappear at the close. The energy and order of the enemy's infantry have been destroyed, its ammunition supply has become exhausted. The necessity of following in the general retreat soon compels them to forsake the shelter of casual cover. Great cavalry attacks upon the retiring hosts may yield very important results. But the enemy's artillery, which is covering the retreat, must also be crushed, for which purpose the pursuing cavalry must be accompanied by a large number of batteries. The horse-artillery of the cavalry divisions halting behind the line of battle, will, generally, have already been in action. It is accordingly necessary to withdraw them, and renew their ammunition supply, or to render a number of other batteries available. All these measures must be thought of beforehand, as otherwise their execution will be delayed.

The infantry is already pressing the enemy closely, but it is broken up, and is hard to control. Even if a few compact bodies are close at hand, they will rarely belong to the same organisation and will be incapable of producing the effect of an original formation. As, however, just then rapid action is more essential than great strength, this is the moment in which we ought not to hesitate to employ all available troops, wherever and however obtained, without regard to their permanent organisation.

If the enemy is pursued upon a single road, he can always bar it, if he has only a few troops capable of fighting. Hence it is necessary to begin the pursuit at once, in proper breadth.

Thorough exploitation of the victory must go hand in hand with the harvest of *immediate* results.

If the late wars were poor in really vigorous pursuits direct from the battle-field, the victories were nevertheless always turned to good account in another form, since the end of each battle became the starting point for fresh operations on a large scale. The result of a battle was entered at once in the strategical problem as a new factor, and a fresh account was opened. The results were less immediate than those of a

prompt pursuit, but they were more far-reaching, and will always be of greater importance.

The best instance of profiting generally by a victory in this manner is given by that of August 19, 1870, the day after the decisive struggle of Gravelotte-St. Privat. There, too, the first hours passed by without complete appreciation of the situation. The moment for a pursuit had long gone by, even if the close proximity of the fortress had not excluded it. But as early as midday fresh orders were issued, which no longer dealt with the immediate consequences of the battle, but concerned the distant future. One portion of the army was told off to shut up the defeated enemy in Metz; another was, without delay, set in motion towards the west; a new army was formed and provided with an independent staff, including the requisite administrative services. Not a single day was lost in furthering the main object of the war. This certainly was the best way to profit by the victory just gained.

A victor can immediately after a battle turn his thought to his most important interests. He possesses at that moment the greatest independence of the will of the enemy, so as to be able to follow up the aims he has set before him with unclogged energy. The vanquished is in quite a different position. He sees himself compelled to drop for the time being all his projects in order to provide for his safety in the first place, and therein lies, at that moment, his greatest weakness. Retreat for him means abandoning the original object in view in favour of seeking safety.* The defeated enemy has abandoned the battle-field under the protection of his artillery. If, as happened at Gross-Goerschen, he has large numbers of good cavalry to launch upon the enemy, his first most difficult steps will be facilitated considerably. Everything depends at first upon putting some distance between himself and the victor, in order that the latter may not constantly press him. We known that strong rearguards with many batteries are the best means of gaining a start. As, however, the enemy is superior in numbers, it is seldom that anything can be wrung from him by force. Recourse must therefore be had to deception wherever an opportunity offers. The "eccen-

* We may not, of course, include here a voluntary retirement, made in order to wait for more favourable circumstances. We are here speaking principally of enforced retreat.

tric " retreat, which is so often objected to as a radical fault, is the best means for this purpose. If the enemy fails to see clearly the direction in which he must pursue most vigorously, the pursuit will soon flag. He will be baffled ; the fact that intelligence comes simultaneously from different directions makes it much harder to unravel than would be the case if the pursuer had the retiring enemy before him on only a single road.

The " eccentric " retreat brings the retiring troops upon a larger number of roads and facilitates their escape, though it certainly always suffers from one inconvenience. The battle has just proved that the united forces were not a match for the enemy. And now they are separated. A successful resistance, then, is inconceivable. But it very frequently happens that it is not desired to fight during retreat, and that the retiring army is rather anxious to avoid all fighting. *In that case the concentration of forces is not required*, and all the advantages of separation can rightly be enjoyed to the full. Their subsequent reunion, as soon as the enemy desists from the pursuit, must, however, always be kept in view.

But even while retiring in a single direction it will also be possible to deceive the pursuer. Positions at one side of the road may attract him and cause him to deploy in a wrong direction, whereby much time will be gained, which is the essence of every plan of retreat. Long-range weapons favour ventures of that description. A hail of projectiles pouring down upon him from a great distance may cause the enemy to hesitate or to deploy in force, the troops which have caused his dismay having time to withdraw to a greater distance. Flanking positions of all kinds can be turned to account, and so enable the retiring combatant to gain time, if only he be clever and enterprising.

The first direction of a retreat is, as a rule, imposed by necessity. The defeated army chooses the roads upon which it can most readily escape from the enemy. The first necessity is to rally the troops and restore order. As soon as the general has regained some control over the fleeing masses, he will guide them from an enforced into a natural line of retreat. *This latter leads him back to the nearest reinforcements, or to the nearest protection afforded by a redoubt or a fortress.* The troops must be halted as soon as possible, *for*

long retreats are most demoralising for beaten armies. A short one is seldom accompanied by great losses, but ennui, exhaustion, and despondency, the inevitable concomitants of a protracted retreat, deliver into the victor's hand guns, prisoners, baggage-trains, and supplies of all kinds.

Nothing must be left undone to reanimate the shattered *moral* of a retreating army. On the retreat, the influence of the general and the influence of the whole corps of officers has the best chance of proving itself. A retreat applies the severest test to the army in question, as to armies generally. We easily over-estimate its merits as long as everything proceeds favourably, and ascribe to efficiency what should really be attributed to fortunate circumstances. Perseverance, energy, courage, and individual greatness, discipline, bravery, and general efficiency can show themselves in their true light after a disaster. Then also a sharp line can be drawn between those who owe their position to the general favour of circumstances, and those who contain within themselves the sources of vigour, resourcefulness, and resolution.

12. *Logical Connection and Sequence in Evolutions and Battle.—The Law of Necessity*

As will already have been gathered from the chapter on pursuits, the greatest strength of an army lies in the absolutely logical sequence of strategical operations as represented in evolution and battle. It was this which dismayed our enemies most in the last campaigns. The "simious agility of the Prussians in 1866" constitutes a great military virtue. In war there must be no holidays. Napoleon I.'s campaigns of 1806 and 1814, and our own in the years 1866 and 1870, are models of logical sequence as yet unequalled. The rapid repetition of blows considerably adds to their weight, since each blow is not merely felt for the moment, but its after-effects last a considerable time. The avalanche increases in size and weight only whilst it is rolling, and this applies to success in war.

The unbroken continuance of the operations demands great intellectual energy on the part of the general. We must remember, that whilst the war lasts, there is for him literally not an hour of rest, not one in which the responsibility

weighing upon his shoulders slumbers. The night is as the day, and forms no exception.

The critical spectator is ever ready to condemn any sign of hesitation. He follows the operations only in thought, without personal part in the resulting conflicts, and without feeling the many exciting and troublous doubts. To strike whilst the iron is hot, is a principle applicable in war also. But passionate energy on the part of the general is indispensable for keeping the military operations in perpetual movement; he must have the instinct of Alexander, neither to allow himself nor the enemy a minute's repose, always to strive after greater things, and never to seek the enjoyment of the fruits of past achievements. Of modern captains, Napoleon above all others was animated by an ever-impelling impatience. A diplomatist rightly said of him, that the world would have no peace unless he could be made to sleep fourteen hours a day. It is well known how much work he was capable of doing personally. He passed half the day in the saddle or in his carriage, made all dispositions for his great army, and then dictated to his aides-de-camp ten, twelve, fourteen, or more long letters,* a labour which alone is sufficient to keep a rapid writer fully employed. "I am in most excellent health; I have become stouter since I left," he wrote from Gera to the Empress Josephine on October 13, 1806, at two in the morning, "and yet I manage to do some fifty miles† a day on horseback, and in my carriage. I lie down at eight, and get up again at midnight; I often think that you have not then as yet retired to rest." Such restless activity on the part of the general is the first condition of connected and rapid action in war.

It is most indispensable at the beginning of a war. It then produces such paralysing blows; and if the enemy once loses his head, it is only necessary to see that he does not come to his senses again, in order to become his master. "This moment is the most important of the whole campaign. The Prussians do not expect what we are about to do. They are undone if they hesitate and lose a single day," Napoleon wrote, on October 8, 1806, to Murat, on commencing the operations. And he did not rest from that time until the

* His correspondence of September 30, 1806, contains seventeen documents, some of them very lengthy.

† "Vingt à vingt-cinq lieues."

Prussian armies were destroyed, and he stood on the banks of the Vistula. Nothing but the natural extreme limit of physical strength may cry "halt." This limit is not reached so soon as is ordinarily supposed; both men and horses can endure much. It should never be forgotten, that a blow dealt at the right time with the least vestige of remaining strength may often spare the exertions of a whole campaign and years of bloodshed. Nothing that can be done to-day must, in war, be put off till to-morrow.

But the troops also must labour without ceasing, which is opposed, not merely by bodily fatigue, but, after a prolonged period of toil and hardship, also by that weariness of spirit which destroys all love of action, and gradually pervades all grades and ranks, down to the simple private soldier.

An army which has passed through a series of battles has lost its bravest officers and soldiers. Death reaps its harvest always among the best men. They rush on in front of the rest, and are the first to be carried away by the bullet. They also succumb to disease; for he who is constantly active of his own free will, and always ready to undergo perils and toils, will sooner use himself up to the extreme limits of his powers, than he who lags behind and loves to spare himself. Thus the internal efficiency of troops will gradually decline in the course of an exceptionally hard struggle. Military efficiency is not to be compared with a magnet, whose energy increases by use. Experience only and bodily suppleness increase. Exertion and privations of all kinds, fatiguing marches, and wet nights in bivouac are cheerfully endured for a short time, but not for months together. They damp martial ardour considerably. A few privileged natures escape the effect of such conditions, but not so the mass of men, upon whom a treatise on the theory of war must base its conclusions.

A person without definite knowledge of war is apt to lose sight of this point. In his imagination the "veterans" advance from one battle-field to another, wreathing their brows with fresh laurels with ever-growing facility. Yet it is impossible to remain always a hero with the same devotion, when battle is an everyday occurrence, when danger cloys by its very monotony, when it comes to footing it on miry roads and to sleeping on the damp sward. Dirt is a dangerous antagonist of all enthusiasm. Ideal and real are far removed

from each other in war. The poetical fancies of the novice are not realised. What he sees easy in his soaring visions, in reality takes a very tiresome course, and assumes a terribly sober aspect. The actions and engagements, the thrilling scenes of which he dreams, take place in times of superhuman exertion, which crushes the soul, and scarcely admits a consciousness of the grandeur of the moment. Exhaustion from fatigue so takes possession of all the senses, that they are insusceptible of any impression. Military history tells us how, on the retreat from Jena to Prenzlau, old grenadiers placed their muskets against each other's breasts and fired, simply so as not to be obliged to march any further. If the sufferings of war overcome even the fear of death, how is it possible that they will not subdue the enthusiasm of the novice ? We have often heard the exclamation, " One illusion the less " from the mouth of those returned from their first campaign. Even though the young man may perchance go into his first battle full of noble ardour, when military life, embellished by romance, lies as yet unknown before him, though he yearn for dangers and adventures, though he may struggle against the sobering effects of reality, yet time at length will gain the day. All is changed, when he has passed through two or three, or ten and twelve, battles and engagements. His love of adventure will then die down. He has reaped a store of glory and honour, and he is content to have gained recollections for a lifetime, and to be able to feel that he has done his duty in the hour of peril. Involuntarily the wish arises deep down in the breast to bring all this happily back home with him. At the close of a war luckily lived through unscathed, no one would have a further wish to die for the Fatherland. The generals, too, have their capital—a well-earned reputation—to safeguard ; it is natural if they are less daring and less rash than when their hands stretched out to grasp their first laurels.

In the year 1870–71, it was said that " an army can triumph itself to death." This sounds paradoxical, but still bears a germ of truth. *The great majority of men at last tire of war, be it ever so successful.* Civilised nations soon weary of exceptional conditions, such as a war, which disturbs their peaceful development. For the same reason, too, the ancients feared the barbarians, upon whom a break in their ordinary mode of life never made the same deep impression.

If this is felt when the war takes a favourable course, how much quicker will not complete exhaustion of martial ardour ensue upon reverses and retreats.

Nevertheless the continuity of military operations must not be interrupted. To ensure this, the general must exercise an enormous influence upon his army, all the higher commanders must display great firmness of purpose, with a certain conscious hardness of heart, and a deeply-rooted sense of duty must pervade the troops. The first condition to the obtainment of special efforts is, that the man in authority evinces the courage to demand them of his troops. *Military history teaches us, that those who dare to demand something extraordinary, are fewer than those who make extraordinary efforts when they are demanded of them.* Continuity of action depends on the commander-in-chief.

Logical action must spring from judgment. A military adviser to the general can do much to impart it to the operations. It will, as a rule, result from the *law of necessity*, which greatly controls the course of modern war. A calm mind will soon perceive what is necessary. The great armies of the present, when mobilised, weigh so heavily upon the life of nations, that the instinct of self-preservation demands the speediest possible release from this pressure. Each of the struggling sides has a certain aim in view which, being attained, will guarantee it peace, and upon which the whole weight of all available armed forces must be directed, in order to reach it in the quickest time. We cannot, it is true, go straight to our goal in a direct line, since the chances of war are bound to cause digressions. Each new situation is, in a way, a new embarrassment, which must be got over most advantageously and quickly. This naturally leads to a change of measures on the part of the adversary, and thus the next occasion arises for a change of our own tactics. Whilst we are advancing, pressing the enemy, surrounding and attacking him, we are ever imposing fresh tasks upon ourselves. This restlessly advancing process must never be interrupted, save under extreme pressure of circumstances. A day idly and unprofitably spent, means at least a loss of millions of money. But it is also important that the generals should always bear their main objects in mind, and should take care that among the numberless expedients to which they must have recourse daily, there be none prejudicial to the general aim.

13. *Resolution, Firmness, Initiative, Independence, and Self-will*

The principles, that in war fighting is everything, that after a victory a vigorous pursuit must be made, in order to turn it to account, that nothing must be allowed to interrupt the forward movement, and similar matters, may be presumed to be already familiar to every soldier, in fact every one knows these things.

If, nevertheless, they are not always observed, this is due, in the first place, to a weakness of purpose, which does not carry out what it considers right. In the field a correct appreciation is only the first step towards solving the problems, whilst, in peace manœuvres, nothing more is frequently demanded than this appreciation. The surmounting of purely personal difficulties, the objections of subordinates, and the influence of highly-placed advisers, are often sufficient to prevent many a good resolve being carried into effect, and to cause it to be replaced by a worse. The friction incidental to the movement of troops and the influence of the enemy, often cause the same effect.

But other circumstances are also involved. There are men who set themselves to work with the greatest energy to carry out a plan, once it is formed, but who, nevertheless, find it difficult to form a *resolution*. For the average man it is not easy, especially when he hears other opinions, to be quite clear as to what *he himself intends*. Foreign elements are introduced unconsciously, because the mind is accustomed to a state of dependence. The same defect, for another reason, is frequently found in people of a really high order of intellect. Their mind lacks a certain moderation, in being too exacting in the matter of preliminaries to action. They want to take the offensive, but the preparations for it do not appear to them sufficient. They mean to fight, but they draw up in their minds a rigid plan of the grouping of the forces preceding the battle. But circumstances are never quite as favourable as had been wished, when resolution is wanting to try fortune even under the *less favourable* conditions. Unsteadiness of purpose makes each individual case appear an exceptional one, to which established principles are inapplicable. It must be realised that the ideal in war will never be attained,

that what we desire is never fulfilled as we would have it, that things always take another form than the expected, and that we must accordingly be ever ready to take decisive action, even under conditions only half-way favourable to us.

To arrive at a resolution it is not sufficient to possess strength of character, but a certain practical insight into the imperfection of all human action is also essential. We should be content with attaining our object, even though it is not attained in the way hoped. No one in this life will attain happiness such as his youthful fancy painted as the only possible bliss. It is sufficient to be happy, no matter how.

Moderation furthers resolution.

To clear the ground as to the nature of the resolution to be taken, it is best to proceed by a process of simple, candid, and practical self-interrogation. Those men of Jena, when it was a question of facing the French, asked themselves, "Which position conforms best to the demands of military science?" And they propounded ideal positions, which might, perhaps, have suited a scheme for a staff tour, but which were valueless, because they did not respond to the existing military situation. "What will the enemy do? What must, in that case, hurt him most? That is what we shall have to do." This is always the proper line of thought in taking a resolution. Whether the action which is deemed likely to be the most harmful to the enemy is quite *en règle* or not, is perfectly immaterial. We must not try to force the fulfilment of our pet ideas, come what may. Tacticians and strategists having this tendency are very dangerous leaders, particularly when they go so far as to crystallise their scientific convictions into systems. In war there is no saving truth outside which there is no salvation; everything may be right, and everything may be wrong, according to circumstances.

But in the zeal to inflict injury upon the enemy, a resolution must not aim at the unattainable, though it should venture to go to the extreme limit of the permissible. *In war, nothing rational must be considered impossible as long as it has not been tested; and we may dare everything we believe we can carry out.*

Very frequently the time will be wanting for a methodical interrogatory. Sometimes excitement prohibits it. A reso-

ution then becomes a matter of instinct. During battles and engagements more action springs from the inspiration of the moment than from conscious labour of the brain. We marvel at the faculty of hitting on just the right thing in such spontaneous ideas, and call it genius, or military intuition, or tact. It is simply the faculty of penetrating at a glance a situation as a whole, and, at the same time, all its details. Scrupulous subsequent reconsideration will seldom better the original resolve. It is even a creation of the moment, in which the whole productive capacity of the man has found its fullest expression. Shakespeare speaks of the "native hue" of a resolution. He knew that it was not an assumed hue.

The danger which threatens the original resolve from subsequent reconsideration, renders it necessary to take some precautions to uphold it. The orders given must be such as to prevent the possibility of wavering. All half-measures are ruinous, simply because one-half takes account of the resolution proper, the other of scruples and doubts which militate against it.

We have seen, that during military movements the resolution taken must express itself in clear orders, if it is to have the proper effect; and, on the battle-field, it must, moreover, find proper support in the bearing and personal influence of the commander. His conduct there must show his belief in the success of his cause, and must clearly display the confidence that his measures are bound to lead to success. Personal influence is a natural gift, not easily acquired otherwise. Excellent men, though perfectly clear-headed and conscious of their purpose, may lack it. It is, even, a question of the innate gift of command. The contemplation of human nature may suggest a few useful hints. "In the face of the enemy, the soldier is not so machine-like as on parade, and this is as true of the highest commanders as of the private soldier."* Even feigned assurance may be advantageous, whilst a careless word of doubt or fear may easily do the gravest harm. In action, optimists regain the ground which their views have lost on the field of argument.

Capable leadership in battle naturally also demands skill in the manœuvring of troops. Undue importance must not be attached to this point, though, on the other hand, entire

* Scharnhorst, "Handbuch für Officiere," iii. pp. 282, 283.

disregard will certainly avenge itself. Furthermore, the habit of command is essential.

As the sense of responsibility is the bitterest foe of all resolution in war, irresponsible persons are, as a rule, most fertile in ideas. When a young man rides with the staff of a field-marshal, he, in his guilelessness, is apt to form prompt resolutions, and cheerfully to take the most momentous decisions upon his shoulders. As his designs often chance to prove right in practice, he readily believes that he only needs a field-marshal's bâton to be a great general. Prudence however, commands that one should not suppose himself a Napoleon before he has proved himself in practice in a position of responsibility. The burden of responsibility changes all at a stroke, and war then is at once regarded with other eyes. It is as if a yellow-red glass was held before a man's eyes; it then seems to him as though the sky, which just before smiled so serenely upon him, now hung pregnant with thunder over affrighted nature.

If an army cultivates the habit of only doing what is ordered, its movements are bound to be somewhat jerky and intermittent. It will experience an interruption on each occasion of unforeseen circumstances occurring, because all concerned will first await the orders of the higher commanders.

In order that the difficult task of the good leading of our great armies may succeed, it is indispensably necessary that the ground for instructions from above should always be prepared by those below. In the war of 1870, we often had occasion to remark, on the German side, that when orders from head-quarters came to the armies and army corps the first steps for their execution had already been initiated.

The spirit of *initiative* urges to independent action, and makes armies strong. We rightly adhere to the principle that, in the case of an officer who has been guilty of neglect the excuse that he had received no orders is of no avail. Passive obedience does not satisfy us, not even the mere fulfilment of what was ordered, where an opportunity occurred for doing more. Clausewitz declares it to be a sign of mediocrity to do always only exactly what one's office requires. We call it an incomplete sense of duty. Frederick the Great demanded that every high officer should at least prepare himself for the next higher rank. Power of inde

pendent action and the spirit of initiative can be cultivated in no other way.

A corps receives orders to continue the next morning the march already begun. Intelligence is suddenly brought that the wing of the army has unexpectedly come into contact with the enemy. It is probable that the commander-in-chief will abandon the old route and take a new one to the scene of action. Orders, however, have not arrived. In this situation the commanding general decides to place his corps the next morning in a position of readiness, so as to be able to march off in the altered direction, without having to make détours or without losing time. That is initiative.

The commander of artillery whom, in our description of a chance encounter, we made to bring his batteries to the front before receiving orders, and who thus anticipated the wish of his commanding general, also showed initiative. It is no less the property of the commander of the advance-guard who, perceiving the enemy, whom he is observing, to be moving off, promptly attacks him, because he sees how wrong it would be to allow him to escape.

Initiative must not be confused, as is so often done, with simple "go at them." An attack, as a capable soldier of high rank once aptly remarked, may be precisely a proof of want of initiative. That would be so in the case of an advance-guard on the march, if it attacked the enemy, simply because of its commander's inability to come to a clear decision as to what he ought properly to do.

Initiative is the independence, based on intelligence, which prompts an inferior to promote the ends of his leaders.

It can certainly not be denied, that initiative at times becomes an inconvenience, by crossing the views of the higher authorities, and thus depriving them of liberty of action, by the creation of an unalterable situation. In the higher positions especially, careful consideration must precede action, because here a part of an army is involved whose fate bears influence on the whole, which is not so much the case when the initiative is taken by commanders of inferior rank. But nothing would be more mistaken than antagonism to initiative in the army generally, and an attempt to establish the principle of restraint on the liberty of action of subordinates, because of the remote chance of a mishap. One

would thus kill a hundred healthy impulses, to avoid a single mistake, and lose enormously in power. Besides, initiative is already opposed by a sufficiency of powerful enemies. Such are, intellectual laziness, *laisser-faire*, the habit of acting by rote, the fear of responsibility, the habit of the majority of men to allow themselves to be carried by the flow of events, of waiting until these clearly impose upon them the duty of action, instead of acting on their own judgment. These negative forces paralyse, as it is, all power of action. If, in addition, they are favoured by the imposition of restraint on independence, it will not be long before they have choked all life, and the troops have become a soft pulp, which, though easily kneaded by its master will, lacks the elasticity necessary to do great deeds. Initiative can easily be driven out of an army ; but it is extremely difficult, perhaps utterly impossible, to rehabilitate it when once banished. There is a means of preventing possible ill consequences of initiative, that being a uniform training of the faculty of judgment. This means is quite sufficient, and will not prejudice independence.

A philosopher of modern times informs us : " I have, alas ! too late after the event, learnt to perceive that to do nothing is in very many cases the most effectual, the cheapest, and the least dangerous, in short, the best and cleverest thing to do." For ordinary life this maxim may contain great wisdom, but we must banish it from the military existence. The soldier must perpetually be doing something. The inclination for it will certainly not remain in him unless he is certain to receive thanks, or, at all events, no disapprobation on principle. The highest military authorities must possess a liberal store of generosity in their dealing with the independent actions of their subordinates.* The German authorities in 1870 did not, in the presence of accomplished facts, enter into a lengthy dispute with their authors, but simply took them into their calculations, since they were unalterable. By acting thus

* This is also very necessary in peace, when already too many orders are given merely to smoothe the path, and with a view to spectacular effect. But an officer, who, by independent action, spoils the nicely arranged group is often severely snubbed. In consequence of such experiences, he determines for the future to wait for orders, and by degrees, this disposition becomes habitual. Where independence is lacking in the *lower* ranks, the fault will, as a rule, lie in the higher authorities.

they fostered in all their subordinates courage to act independently, as well as assurance in risky undertakings; for each one knew that he would not be left in the lurch, but might consider himself certain of support from above. Thus the strength of the whole army was doubled.

There is no more foolish doctrine than that the general must leave to his fate a subordinate commander, who has, without sanction, involved himself in a ruinous battle. Wherever such a thing happened, except at the bidding of stern necessity, it would be equivalent to fighting against one's own army.

He who allows independence, does not, by any means, by so doing plead the cause of *self-will*. The boundary between them appears to be very indefinite, but can yet be perceived, as soon as the motives for action are closely examined. The verdict must be determined by these, and not by the result, which often depends upon accident. Self-will always springs from egotism, and not from interest for the common cause. Independence derives its justification from the fact that it promotes higher aims, or, at all events, intends to promote them. Where this motive is excluded, and egotism is indulged in for its own sake, it changes into arbitrariness.

Independence and self-will are in no wise, as is so often thought, nearly allied. The first risks the person for the sake of the cause; the second, the cause for the sake of the person. Each is foreign to the other, and it will, therefore, be quite possible to adopt the one to the exclusion of the other.

The resolution is the author of action; Firmness its preserver; Initiative its nutriment; Independence its guard against interruptions; and where these qualities are found, Self-will is unknown, for the former spring from a good, and the latter from an evil disposition.

14. *Particular Conditions Influencing Movement and Battle*

It has never yet occurred to any one to write a treatise on strategy and tactics for the different seasons of the year, and yet their influence is certainly quite as great as that of ground, which has often been treated at great length.

That evolutions and battles, when rain or thaw has covered

the ground a foot deep in mire, and when neither cavalry nor artillery can be employed, except on the roads, will take a different form to that which they take in times when troops can be freely used upon hard and firm soil, is self-evident. Battles, under such conditions, are less decisive in their issue, and more dragging in their course. Impetuous charges are equally impossible as rapid pursuit ; defence gains in strength. The tactical efficiency and address of good troops cannot make itself felt to the fullest extent ; even bad troops may venture to await their foes firm of foot, and measure their strength with them. The plans, under the influence of such considerations, must become restricted, unless the energy of the commanders and the exertions of the troops can double themselves.

That, however, is not the only consideration. The difference in the length of days, which the various seasons in our latitudes bring with them, influences military operations very greatly. By far the greater part of the work of war can only be carried on by day, in which, as already mentioned, we include the dusk. Accordingly, in the height of summer the day means from 2 a.m. to 10 p.m. ; in winter from 7 a.m. to 5 p.m. ; twenty hours in the one case, and only ten in the other. But we must remember that, in battle, effect does not advance simply with the time, but increases in a progressive ratio. A victory, which in six hours is only half fought out, can be changed into an annihilating defeat of the enemy, if only two additional hours are gained for continuing the battle.

In winter, marches are always more fatiguing. Not merely do snow and bad roads occasion this, but also the cold, which drains the strength and tires. A man needs more sleep ; the start in the morning is delayed, although the troops reach their quarters earlier. Besides this, all must be brought under shelter, and the troops spread further afield, in order to find heatable rooms. Every assembly of troops takes more time, which makes itself doubly felt in the short days. Rapid concentration of troops from great distances is impossible, as are engagements after long marches to the front. More caution must be displayed in separating the troops, and they must be kept closer together, a precaution which again runs counter to the requirement of better accommodation. Cold increases hunger ; thus the troops demand an ampler supply of provisions. Warm food is indispensable.

From the increased difficulty of movement, and the shorter working time in winter, it follows that it is scarcely possible to fight out battles on close ground, which usually last very long. Frequently, a thick morning mist, lying over the snow-clad fields, lengthens the night. The days of Le Mans have shown us how difficult it is under such circumstances to drive an obstinate enemy from ground which favours him. The engagements began late. The snow impeded the advance of the lines of skirmishers, darkness supervening put an end to the battle, just when success came in sight and the enemy began to break up. The length of the winter's night rendered it possible for him to rally, to take up fresh positions, to bring up reinforcements, and to prepare for resistance on the morrow. The process of destruction on foot in the French army was too frequently interrupted to proceed very fast. In the height of summer the Germans would have completed in three or four days what, in winter, took seven days to accomplish, and the result would have been double.

Upon the spirits of the army also the season of the year has a certain effect. On a bright spring morning the troops march more gaily and with greater vigour, than in the summer or on gloomy days of rain.

How much the health of troops is affected by the *weather* needs no mention. A combination of shortness of supplies and of bad weather constitutes an all-destroying force. Especially detrimental are these influences at a time of compulsory inactivity, in camp life, and under similar conditions. In 1870 the chief attention of the supreme authorities of the army before Metz was rightly devoted to this point. The necessity of keeping the soldiers occupied by duty and by labour in the lines of investment was frequently emphasised in the orders issued at the time. In one of them, dated September 9, it is further enjoined :

" Every effort is now to be made to see that the continuous bad weather does not turn out calamitous. Every roof must, therefore be utilised for quarters, so that the outposts may be relieved from time to time, and may be able to dry their clothes by the fire. An unfailing and sufficient supply of food, a resolute will, and the conviction that the enemy fares worse than we—as all the prisoners of war testify—will enable us to overcome even the present hardships."

Movement, as a rule, lessens the influence of bad weather. It works gratefully upon the feelings, by the changes it affords to eye and senses. Every march after a long halt is something invigorating. Considerations of health often render a change of air desirable. Infectious diseases spread less easily, and regularity of bodily activity is beneficial.

A winter campaign is a hard test for any army, and under very unfavourable conditions considerations of preserving the troops may so push those regarding their active employment into the background, that they finally become the chief solicitude of the leaders.

With the increase in the strength of armies, *attention to health* in war will naturally gain in importance. It is painful to see day after day whole railway trains full of sick being transported to the rear, reserves only slowly coming in, and no effective remedy at hand to stay this steady disintegrating process. Let us only think of Sennacherib's host before Jerusalem. The loss of strength by disease is scarcely credible, but yet one single instance suffices to make one believe that it may finally undo all successes. The conditions of health obtaining in the German army in France were quite favourable; no dangerous epidemic broke out; and yet, during the course of the war, 400,000 sick,* were obliged to have recourse to the hospitals. The average duration of the absence of the sick from duty has recently been given by a painstaking investigator at about twenty days. The total result in terms of effective service in the ranks is accordingly equivalent to that of twelve complete army corps for roundly three weeks. No remedy must be left untried to counteract this natural dissolving tendency. Climate and the civilisation of the land in which war is waged will necessitate different measures. In a war in the East quite different precautions must be adopted, and considerations of preserving the health of the troops would there play a far more important *rôle* than in a campaign on French or German soil.

Of considerable influence is the melting of the *numerical strength* in war. A battalion which, at the commencement of the campaign, numbers 1000 rifles, sinks at its close to 300. The army corps, in respect of the number of their combatants, become weak divisions, the divisions weak brigades. And yet a definite conception and definite demands

* Besides the 100,000 wounded.

upon them are inseparable from their names. A temptation exists for the supreme commanders to reckon simply with corps and divisions, and to assign to them at the end of the war the same tasks as at its beginning. This is favoured by the fact that certain elements never vary. The head-quarters of armies and army corps, the number of guns,* and the baggage-train remain the same. The rapid melting away of the forces is shown principally in the infantry, far less in the cavalry and artillery. The weakened infantry must, however, still supply all the necessary detachments and provide for the duties of the service of security within the area of a complete army corps, and thus again loses a greater proportion of its total strength than in the first period of the war. The principal arm loses more and more in its importance.

Owing to this, and to the simultaneous loss of martial ardour and enthusiasm, military operations assume a different character. Whilst the masses so reduced would certainly give a general like Bonaparte an opportunity for exercising surprising dashes, appearing suddenly here, and then disappearing, the conditions I have described make battles generally more feeble and less spirited affairs. We now rather push than strike. The battles become cannonades, which create much noise and expend much powder, keep the field clear of corpses, and end without any real result. The change is, it is true, concealed from the home country; for the consequences of less energetic action awakes in those participating the need of magnifying their deeds by highly coloured descriptions. The longer the war lasts, the more vivid is this colouring, so that the country gets in the glowing newspaper accounts a sort of equivalent for unaccomplished achievements. On the Lisaine the total losses of the whole of Werder's corps during the three days' battle were only equal to those of each of the three brigades of infantry of the 3rd Army Corps at Vionville within eight hours, and were below the losses of the 38th Brigade, 5000 men strong, and exactly equal to those of the 16th Infantry Regiment in a single hour. In spite of this, the battle on the Lisaine was, in the daily papers, described as not less bloody and exciting than that of Vionville. Months had elapsed, which had lowered the demands made upon the soldiers and increased the self-content of the nation.

* Accidental losses in action deducted.

As a general rule, in the future only those fortresses will be invested the possession of which is considered absolutely essential for the conclusion of peace, and such as must be taken in order to gain the most necessary space for the forward movement of the armies. Where the enemy's capital is fortified, its capture will form the last act of the drama. Special reasons will seldom be decisive, as was the case with Sebastopol, where England wished to destroy the nursery of Russian naval power in the Black Sea.

Hence it follows, that the most natural objects pursued in the building of fortresses consist in securing the possession of important places, particularly such as have an important bearing on the movements of the field army, the blocking of communications, and the protection of an exposed capital.* River crossings are accordingly protected by fortifications, so as to ensure a safe passage under the shelter of extensive works. Important military and naval arsenals are similarly protected, if their situation exposes them very much to the risk of destruction. Great fortresses are also built in distant provinces, which are much exposed to invasion, and into which, by reason of their situation, no considerable army can be sent. By their aid, even in the absence of a large army, it would then be no easy task to dispossess the owners. East Prussia would never fall into an enemy's hands as long as Königsberg held out; whilst the reconquest of the province would be rendered easy by the possession of that place. Only a very much weakened adversary can be forced to surrender such bulwarks by pressure in another locality; thus, for instance, the Russians before Constantinople succeeded in compelling the surrender of the Bulgarian quadrilateral.

Theoretically an even greater influence is accorded to fortresses in relation to all major operations of war. They are made silent partners in all the evolutions of armies, being considered as pivots of concentration, as a basis for the movement in advance, and as gates for sorties; their influence in regard to flanking operations is also spoken of.

Such views, however, are apt to conceal confused ideas, and require a simple course of explanation.

That the strategical concentration is facilitated by frontier

* Vide p. 110. From what is said there the extreme importance to the preservation of the Turkish Empire of the effective fortification of Constantinople, both land and seawards, becomes apparent.

fortresses is correct in so far as otherwise it would be easier for the enemy to disturb it, if he could put himself promptly in possession of the points thus closed to him. Strong garrisons, immediately on the outbreak of hostilities, can send out detachments to occupy important railway bridges, etc. The observation of the frontier is facilitated, the soldiers in the frontier districts have a safe place to assemble in, and to be clothed and equipped. The fortresses, too, afford accommodation to magazines, which, if not already existing in time of peace, must be rapidly established whilst the troops are assembling. In short, fortresses afford no end of accessory advantages. But their protection to troops in the course of detrainment and deployment is limited. The enemy cannot, it is true, proceed in the immediate vicinity of the fortress to interrupt these operations, and, moreover, the troops of the arriving army which detrain within fortresses are absolutely safe. This advantage, however, can only be enjoyed by a comparatively small part of the whole army. At no great distance from the fortress interruptions of traffic on the railway are already possible.

Only in cases where the independent secondary works of a fortress extend the protected area in different directions, so as to embrace an entire section of country, the place will be of benefit to a whole army, by guarding it against the unpleasant prospect of being attacked while still engaged in the process of concentration. In this connection we may refer back to the beginning of this volume, where the idea is expressed of connecting adjacent fortresses by smaller independent works, designed to restrict the enemy's freedom of movement, and to deprive him of the use of roads and railways.

The fortresses of former times were of great value as *bases*, where the armies were dependent upon one, or at most only a few, magazines. Had Naumburg been a fortress in 1806, Napoleon's enveloping manœuvre could not have made the same crushing impression on the Prussian army upon the Saale which it actually did. Its one chief magazine was situated there and was lost at a stroke. In these days, when the whole country in rear of the armies is full of supplies of all kinds, the loss, and, consequently, the protection also, of such an emporium can be of little moment. The *rôle* of a fortress, as a basis, is thus limited; it will only be of import-

ance where concentration has to take place within a very narrow space: for example, where a naval Power possesses fortified harbours on a foreign coast, which form the natural and sole basis for its operations by land.

That fortresses are especially favourable *gates for sorties*, is also difficult to prove. The works do not facilitate movement. An army will attack much better over open country. If the army is confined to a narrow strip of land, a depression between mountains, for example, which the enemy could close against it with few troops, it will, of course, be well to secure possession of the pass. The French thus secured their hold on the famous "*trouée de Belfort*" by the erection of a first-class fortress. But it is difficult to block a passage in a civilised country well provided with roads. A few good forts would probably have sufficed for the safety of Belfort, and a great fortified camp might have been dispensed with. Belfort in its present form serves more the purpose of securing the permanent possession of a point, the cession or retention of which was the subject of discussion in 1871.

As to the *flanking effect of fortresses*, this is still more open to question. The underlying idea is that the commandant of a fortress which is not being invested can employ his garrison in outside operations. In conformity with this idea it would be impossible for the adversary to allow his lines of communication to pass close in the vicinity of a fortress, unless he was prepared to leave considerable forces on the spot to protect them.

The correctness of this view will be recognised by every commandant, and every one of them would agree that that would be the only way to turn the stronghold, built with so much expense, and its numerous garrison, to account, in case the enemy attempted to pass by disregarding it. He may even think it possible to compel a siege by constant and energetic activity within a wide radius, in order that the fortress may thus be made to serve its proper ends. But there are plausible and weighty reasons against the realisation of this plan.

In a great fortress there is such an extraordinary amount of work to do on the breaking out of hostilities that all energies must first of all be devoted to the works. The best of fortresses, moreover, are not, in times of peace, in a perfect state of defence. The ground must be cleared all round, the

ramparts must be prepared for the mounting of guns, the ditches cleared out, obstacles constructed, gates and bridges strengthened, crossings, ways, and lines of metals laid, outlying villages fortified, advanced positions built, ammunition prepared, *matériel* placed in readiness, and bomb-proof chambers built, which, in extent, often are many hectares square. Besides this, magazines, depôts, and hospitals must be organised, and measures taken for protection against fire. Every fortress will show deficiencies, which could not be made good in time of peace, but which remain to be dealt with in anticipation of war. In short, there is sufficient work to last throughout an entire campaign. There always remains still much to do and much to be desired. The completion of provisional works, if they are to possess any degree of defensibility, requires months. The French, at Metz and Paris, surrendered to us fortifications at which they had been engaged during the whole investment, and which in the end were still in a partially incomplete state.

In comparison with the extent of modern fortresses, the garrisons of the various sections appear quite insignificant. They are so scattered over an enormous space as to leave the defences weak at any point considered by itself. The call for reinforcements will be heard on all sides. The guard and outpost duties upon the extensive lines make immoderate demands upon the forces.

The commandant must do his utmost to be well prepared at the commencement of a siege. Under these circumstances he will always imagine the moment for outside operations not yet to have come, and then, when finally it does arrive, he will discover that he has really no forces available for such enterprises.

The fear lest the enemy should begin an investment before the flying columns have returned, and that thus their return will be impossible, prevents distant raids being made, and in the immediate vicinity there is frequently no adequate object.

In any case such operations have to contend with great difficulties. If they have no definite object, as, for instance, a magazine, vulnerable places in the enemy's lines of communication, etc., they will frequently be mere expeditions *en l'air*. To sally forth merely in search of booty worth the taking is, generally speaking, impossible, because the troops

sent out will be weak in cavalry, the service of intelligence will, consequently, be greatly impeded, and the commander will have to grope about in darkness. It is also very rarely possible in a fortress to be sufficiently informed as to what is going on outside, so as to know definitely that the enemy is not in a position to rapidly collect superior forces, and crush the detachments of the garrison that have ventured into the open. Their situation will, moreover, be more critical owing to the fact that they can only beat a retreat upon one single point. But the annihilation of one of the columns may, when its strength is a considerable one, jeopardise the defence of the fortress against a serious attack, and the moral effect of such a loss upon the garrison is, beyond doubt, serious. If detachments of the garrison sent out meet with some of their own troops in the field, and become involved in fighting in combination with them, they are apt to find another mission, *and they will generally be very glad of the occasion*, being thus lost to the fortress commandant. This was the experience of General Rolland in January, 1871, when he despatched the battalions of his Garde Mobile from Besançon to support the Army of the East operating in the relief of Belfort. They never returned. The eagerness of troops to free themselves from the ban of a fortress, which is always regarded somewhat in the light of a prison, is too natural not to be reckoned with.

The Damocles sword of a regular attack is always hanging over the head of the commandant, and this will make him chary as to outside operations. If he is quite certain that such attack does not threaten him, that the enemy has disposed of his siege-train and cannot bring up fresh *matériel*, that would be the propitious moment; but the certainty of it will only be attained in the rarest cases. *Fortresses protect the troops they contain, but, at the same time, anchor them to the spot.* A bold attacker will pass close by with impunity, and will not hesitate to open his lines of communication at a moderate distance. The flanking effect of a fortress is, ordinarily speaking, not great.* Exceptions may occur,

* General Brialmont replies that the two reasons here advanced against the flanking effects of fortresses, viz.: the large amount of labour required in and round the place, and the difficulties of the retreat of expeditionary detachments, are not valid. The former, he says, would disappear immediately if fortresses were provided with sufficient armoured equipment (*armement cuirassé*), and the ramparts were always kept in such a condition that not much remained to be

when the garrison is exceptionally strong, or when a part of the active army has been temporarily driven into the fortress, in which case these forces, upon which the commandant had not reckoned, and which do not belong to him, must be turned to account in some way or other.*

During the war of 1870–71, the fortress of Langres lay in the rear of the German army. With a garrison of 17,000 men, and at no time threatened or even invested by half this number of troops, this fortress never really endangered the lines of communication of two armies which passed but a few miles away. Much was, it is true, written and talked about its being the seat of all annoyances, but these consisted far more in what was feared than in what actually took place.

The two interruptions of any importance which took place in the country about Langres, the surprise of Châtillon-sur-Seine, on November 19, 1870, and the blowing up of the bridge of Fontenoy on January 22, 1871, were the work of French raiding parties, acting independently. Yet neither the commandant nor the garrison can be reproached with inaction. They, too, laboured under the restriction of natural forces. The only expedition made with a considerable force of all three arms to any great distance ended at Longeau, on December 16, 1870, with the defeat and death of the commander.

Every fortress commandant, who is not besieged, should certainly endeavour to profit by his combatant forces in offensive action. But only few possess the opportunity, still fewer the necessary daring. The task is not a light one.

We shall thus see in every war a great number of fortresses fully armed and prepared, whilst only a few of them will play any part.

A modern fortress of only moderate importance has a garrison of 25,000 to 30,000 men. Five such fortresses thus absorb a whole army, and too great a number of fortresses

done at the outbreak of war. The second objection would fall to the ground from the moment that isolated fortresses gave way to fortified sections of country (*régions fortifiées*). See Brialmont, "Les Régions Fortifiées," pp. 66, 67, Bruxelles, 1890. That is quite true, but financial considerations will prevent the realisation of such desirable objects for yet a long time to come.

* Such bodies of troops will, of course, feel little inclination to allow themselves to be confined permanently to a fortress.

may accordingly be regarded as only a source of weakness. Some field troops will usually be mixed with the garrisons.*

Fortresses within the radius of actual operations may be of great advantage to the army in the field. Most dubious, however, is that advantage, which is made so much of, namely, that a defeated army finds protection behind the forts of the place, can re-form and rest there, and then resume the offensive. The last part of the programme will, as a rule, remain a good intention. *Great armies, which are shut up in a fortress after lost battles, are, as the history of investments from Alesia down to Metz proves, almost always lost.* This is primarily due to the bad moral effect, which the consciousness of having a secure refuge behind the guns of the fortress must exercise upon every army which has learnt to know and to feel the superiority of the enemy. Next, it must be considered that the freedom of movement of a large army encamped under the guns of a fortress is very small. Masses of houses, gardens, walls, hedges, plantations of all kinds fill up the intervals between the works. The troops are more or less confined to narrow streets, and their deployment for battle is a slow process. Providing the investing army finds well-situated observing stations, its concentration at the point of sortie will be completed before that of the besieged. The investing army has to cover greater distances round the fortress, but enjoys the advantage of being able to utilise more roads and to march without opposition. At the spot itself it needs only to make a passive resistance. The reinforcements, which are being brought up on the line of investment from both sides, come in a direction unfavourable for the enemy attempting to break out, *i.e.* upon his flanks. The disadvantage, that every army of investment only opposes a thin line to the enemy's concentrated masses, is only apparent. The neighbouring corps of the part attacked form natural reserves, and they are in a better situation at the sides than in rear. When the investing army has con

* However, great existing fortresses cannot simply be abandoned in order to spare troops; at all events, such a resolve is hard to make. Changes in the political situation may unexpectedly make a dismantled fortress a place of importance. The unexpected course of a war may give it an importance not previously foreseen. In the case of a few important fortresses it is essentially necessary to keep them from being taken by the enemy, who would seize them, if it were made easy for him. Here the works must remain, even when a siege is not expected.

centrated upon the threatened point, the greater part of their positions round the fortress will certainly be but weakly occupied for the moment. It would seem possible then to break through somewhere; but the invested army, too, is concentrated at a point other than where the roads lie open. Before it can face round, the observant besieger would most likely be ready to confront it again. The present effect of fire renders it impossible to rush even a thin line with precipitation, and whilst it is resisting, supports have time to arrive.*

The invested will rarely be able to judge when and where the circumstances are favourable for his bid for freedom. Errors and mistakes are very easily possible. But even if the first attempt succeeds, the liberated army will have the enemy upon both its flanks. Its baggage and commissariat cannot possibly be brought out as well, and without these it is not capable of keeping the field for long. Débris and parts may escape, but never a whole army in a state in which it could play an effective *rôle* in the open field.

An army can easily be got behind fortifications, but only with difficulty back again into the open field, except it be that strong help from without lends it a hand.

Weaker garrisons find much more readily the way to liberty, even when surrounded by comparatively greatly superior forces. The best instance of this is furnished by the successful sortie of the garrison of Menin under General von Hammerstein, so clearly described by Scharnhorst: 1800 men here cut their way through 20,000.

Whatever the relations between fortress and field army, the latter must make it a supreme rule *never to allow itself to be thrown into a fortress.* Even to pass through it is dangerous, because the army may easily be retained against its will. But under certain conditions it cannot be avoided, as in the case of changing from one river-bank to the other, though here the danger is naturally less.

* The invested army may, it is true, attack with a few corps at a place other than that at which it is intended to break through, in order to decoy the investor there, and then attempt a passage elsewhere. But the enemy, as a rule, will quickly see through and checkmate this manœuvre. The chances of success are better if an attack be made with the bulk of the forces, so as to compel the enemy to collect his troops on one point of the investing line, and then to break through on the other with a corps that has been kept concealed. But in that case only a fraction of the invested army is saved.

It is always better *to use a fortress as a point d'appui*, which enables the field army to keep its full freedom of action. But in such a case the touch must not be an immediate one. The enemy will, generally, take good care not to pass between an army and a stronghold in its immediate vicinity, even when the road is open to him. In this manner, fronts of considerable length can be covered, which it were otherwise impossible to hold with the number of troops available in the field. A fortress of the first rank, with a circle of forts, having a diameter of eight to twelve miles, already covers a line of front of from sixteen to twenty miles. A field army resting upon a fortress is, moreover, in the favourable position of only one of its wings being liable to be turned, where it may keep its reserves in readiness from the beginning.

The presence of fortifications on the lines of rivers confers inestimable advantages. Field-Marshal Moltke, in his memoir of 1868, describes the Rhine with its fortifications as "a defensive line which could be held with 100,000 men against all comers for from four to six weeks." Whoever holds the fortifications on the banks of a river commands both sides, and can act on either with combined forces against the divided forces of an enemy. This consideration will cause the leader of an intended crossing to hesitate, as he must always fear an attack on either bank. Napoleon censured the Viceroy Eugene very strongly for failing to utilise in this manner the small fortress of Custrin during the retreat of 1813 for the defence of the Oder. "If, instead of retiring to Frankfort," he writes, "you had taken up a position in front of Custrin, the enemy would have thought twice before venturing to send a particle of his forces to the left bank. You would have gained twenty days at least."*

The situation becomes even more favourable when rivers and valleys tend in the direction of the fortress, so that the army can occupy several positions in succession, using the fortress, so to say, as a pivot, one wing always leaning upon it for protection.

The army which has a great stronghold only a short distance behind it, ventures a battle against superior numbers with a lighter heart. Its retreat is, at worst, short, and the

* "L'ennemi aurait regardé à deux fois, avant de rien jeter sur la rivegauche."

destruction can never be very great. And if it passes through the fortress, and has it afterwards in its front, the enemy will rarely be able to judge what number of troops, if any, it has left there. This compels the enemy to closely watch the place with strong forces, that is, to weaken himself.

In this way a fortress situated within the theatre of war will be of much service to an army. The proximity of Metz rendered it possible for the army of the Rhine, on its retreat to the Moselle after the battle of Spicheren, to halt without great danger on arriving behind the French Nied; and, with greater patience, still greater advantages might have been reaped. Metz allowed Marshal Bazaine to accept the battle of August 14 without fear; it allowed him to lead back his army across the Moselle, although the Germans reached that river before him; on August 16 and 18, it gave him a support for his left wing, and saved his defeated right from being pursued after the battle of St. Privat. It is evident that Osman Pasha's numerically weak army would not have been able to play the *rôle* it actually did but for the skilfully and rapidly improvised fortifications of Plevna. However, in the cases of both Metz and Plevna we also see that the proper moment for parting from the fortress, which is so difficult to seize, was finally neglected by the leaders of the respective field armies,* and that the means of safety thus turned to means of destruction.

The way in which Ahmed Moukhtar Pasha made use of Kars in the first stage of his campaign against the Russians in the spring of 1877 was a very clever performance. He retired behind the fortress, thus compelling the enemy to invest it at the loss of time and forces. This at the same time gave himself the time required for the concentration of his still scattered forces in a strong position against the Russian lines of advance. He next drove back the column sent against his right flank, causing the weakened Russian centre to come to its aid from Kars, and driving it back in turn with losses resembling a rout. He thereupon pressed forward victoriously and relieved the fortress, which he subsequently used as a *point d'appui*. Kars at that time was in

* It should, however, be mentioned in favour of Osman Pasha that he himself wished to quit Plevna in time, and to take up a fresh position closer to the Balkans, where he would be in closer touch with his resources, and was less liable to be surrounded in the mountain region. He remained at Plevna in pursuance of definite orders from the Sultan.

no way prepared for a vigorous defence against a regular siege, possessing barely sufficient power of resistance to be left to its own resources for even a brief space. However, none but a skilful and active commander would know how to derive due profit from the proximity of a fortress, as happened in this case.

The extension of fortresses by girdles of forts, which are in these days considered to be indispensable adjuncts, has really introduced no new element into the mode of waging warfare. The idea of fortified camps is an old one, and Babylonians, Carthaginians, and Byzantians led armies behind the walls of great and populous towns, in order there to continue the resistance which was impossible in the open. Only the dimensions have been altered, with the ranges of the propelling engines employed by the attackers. A more modern idea is the construction of chains and groups of forts. By this means an attacking army can be brought to a standstill, and garrisons counting tens of thousands are not needed. The observation and defence of the battle-ground between the forts is thus dispensed with; no town circumvallation behind them need be kept, and yet the enemy's passage will be as effectually prevented as by a great fortress. Such works have always, it is true, a certain element of considerable weakness. Many single commandants, many small garrisons, work side by side, and, if not the fate, yet the utility of the whole depends upon the uniform efficiency of all. The possibility of a mistake or a disaster occurring in one place is increased. If, owing to such, a fort should fall early into the enemy's hand, the value of the whole group or line is not, perhaps, entirely lost, but will be very considerably diminished. What we have said about defence on an extended front finds its application here also. The danger can be diminished by the field army placing itself in close communication with the works, and thus prevent their isolation, whereby the line of forts, with interspersed field entrenchments, gains the character of a front of a very great fortress attacked by an enemy. The troops employed to fight between the forts are not lost to the field army, and the danger of investment vanishes. There remains only the danger that the army, owing to the advantages which such support affords, may allow itself to be drawn too much into a *purely passive* defence.

We have already said that the manner of attack upon such groups or lines will be different according to the disposition and character of various armies and generals. For their capture by force the destroying power of artillery is the sole safe means, so long as a special method of blowing up such works from a great distance has not been discovered. A bombardment of forts, which are at all formidable, with ordinary field-guns does not hold out any prospects of success. High-angle guns will certainly give better results, but, in order to ensure success, the services of the heavy artillery of the field army, or even of siege guns, cannot be entirely dispensed with. It is true, such masses of heavy ordnance as must be brought up against a great fortress will not be required. But if we reflect that the transport of one single piece of heavy ordnance with the smallest admissible supply of ammunition requires up to forty horses, the difficulties to be contended with here are not small. In order to get fifty guns to bear upon a fort, more than 2000 horses are needed, including those of the mounted escort. This constitutes a heavy burthen upon the army, and creates additional difficulties for the offensive.

Bold men in similar cases have dispensed with the aid of artillery, and have proceeded to the assault with the means available at the moment. Although both engineers and infantry have recently made great progress in dealing with obstructions such as walls and water-filled ditches of fortifications, still, such an assault demands of the troops the extreme of heroic courage. Under exceptional circumstances, such a demand may be made with full confidence, but it must not become the rule.

For the purposes of secondary fields of operation, particularly when the forces available for their defence are limited in numbers, the fortified areas advocated by Brialmont appear to be most appropriate. In his work on the subject* this world-famed engineer unfolds ingenious theories as to the construction and employment of "régions fortifiées." They are to consist of a great fortified camp with a certain number of adjoining *points d'appui*, the whole forming triangular or square areas at points of strategical importance, generally with sides of 15 to 20 miles in length. Within this area an army in need of shelter will find a safe retreat, like a spider in

* Brialmont, "Les Régions Fortifiées," Brussels, 1890.

its web, where it can lie in wait for an eventual victim. The example of the Venetian and Bulgarian quadrilaterals is adduced, though neither of these exactly corresponds to the master's requirements. In the case of the former he suggests the provision of an additional fortified support in the interior; in that of the latter, the formation of a fortified camp as a central point, the four existing fortresses being used as *points d'appui*.

The investment of fortified areas is rendered impossible by reason of their extent. The field army within enjoys greater freedom of movement than in a single place of arms. Retreat after a sortie cannot be cut off. The assailant himself may force his way in, but being weakened by the necessity of having to keep the various works under observation, he may be defeated by the defender leaning on one of his strongholds, in the same way that Archduke Albrecht defeated the Italians. If the assailant advances with divided forces, opportunities of profitable action against one of his columns are more apt to occur than in the open field, of which we have the example of Custozza. Fortified areas thus considered compare favourably with isolated fortresses and chains of barrier forts. When, however, General Brialmont proposes to secure entire districts in this systematic manner, and to either block every possible line of advance, or to threaten them from a flank, thus constellating the map of Central Europe with a network of fortifications, he seems to us to go too far.* As all his works are, moreover, to consist of armoured structures, with all the best modern equipment, the cost would be prohibitive. The troops for a part at least of these areas would also have to be detached at the very beginning of war, whereby the field army, upon which the safety of a country depends, would be greatly weakened.

Undue reliance on fortifications arises from a consciousness of weakness, and nations animated with the spirit of the offensive will observe proper moderation in that regard. Whatever nation seeks safety behind ramparts and ditches is lacking in a sense of vigour; it will surely confine itself in an increasing degree to a passive resistance, the end of which is bound to be defeat, however long it may be deferred.

* In his proposals as affecting Germany the fortified area of East Prussia, with Königsberg in the centre, and Pillau, Tapiau, and Preussisch Eylau as *points d'appui*, appears the most practicable.

The idea of movable armaments has become most fascinating of late. It originated in the proposals of the German engineer Schumann (died in 1889), who aimed at replacing the monumental works of stone, concrete, and iron by structures of a lighter type. He proposed to provide protection against the destructive effects of artillery, not by strengthening the breastworks, but rather by reducing the size of the target and by concealment, so as to reduce the chances of its being hit to a minimum. There thus originated the shielded mountings known by his name, at first for heavy, subsequently for guns of lighter calibre, developing finally into movable shielded mountings for quick-firing guns. These latter, while too small to be hit by heavy siege guns otherwise than by chance, are perfectly safe against field artillery projectiles and rifle fire. Combined in batteries and stiffened by a single heavy piece, they form such a solid front that any attempt at rushing them would rarely succeed, and then only with very heavy loss indeed. A regular attack, similar to that on the works of a fortress, though perhaps less protracted, would thus become necessary, whereby their object is fully attained. With a view to greater security it is advisable to arrange these batteries in several lines, placed in accordance with the formation of the ground. Although visible to greater distances than generally believed, still they can be masked by simple means. If the guns with their steel mountings are already on the spot, a few weeks will suffice for the completion of a fairly strong place, able to withstand with a small garrison a numerically superior opponent.* There remains, finally, the possibility of transferring the whole equipment to another locality if circumstances demand it.

It will thus come to pass that fortresses will be relieved of their greatest element of weakness, which is, that though constructed at an enormous cost, and garrisoned by a small army, they may not in the end be situated in conformity with the course of events. It is rightly maintained that points of strategical importance can always be identified, but their number is so great that due provision cannot be made for all separately. Moreover, the fortune of war occasionally plays astonishing pranks, and attaches unexpected importance to

* A battery of one 4·7 inch quick-firing howitzer and four 2·09 inch quick-firing guns requires the services of one non-commissioned officer and fifty-five men.

places not ordinarily entitled to particular consideration. What would not the French have given in 1870 if Orleans had been, or could have been, rapidly converted into a stronghold invulnerable to direct assault? Still, no one would have ventured to propose the fortification of the town before the events of that year. Who, before 1877, had any thought of Plevna?

The means of creating fortifications almost at will is of great value alike to the attack and the defence. How pleased would not Napoleon have been if he had been able in 1812 to convert Smolensk into a great fortified camp. Movable armament is particularly adapted for ensuring the safety of the large magazines in the rear of the army within the enemy's country, nothing more being required than the storage of lightly shielded movable or portable quick-firing guns on the lines of communication. Extensive positions, such as the Dannewerke of old, could be rapidly converted into fortified lines. The first example of the employment of this system on a large scale is given by the part of Roumania between the Danube and the Carpathians, on the line Galatz-Fokshani. Shielded mountings have their further uses in closing the intervals between the advanced works of fortresses, in barring the gates for sorties, and in blocking defiles of all kinds. They will also prove valuable in counter approaches carried by the besieged forward of the fortress to disturb the work of the engineer of the attack. Experiments have been made at manœuvres in the use of mobile guns on shielded mountings for the creation of strong *points d'appui* during the progress of an engagement. It is thought that there will be many opportunities of using this type of armament in field operations; but its low degree of mobility prohibits its being regularly taken out, and its practical application can therefore be merely the result of chance or specially favourable circumstances.

The science of war cannot afford to disregard these new means of combat, however much they may still be in need and capable of improvement. By their means field army and fortress can work hand in hand, without the latter becoming fatal to the former.* They will often fulfil their purpose by

* The fact that an improvised place of arms cannot replace one constructed in time of peace with all the resources of military art, does not alter the case, that not being the point. The object of fortifications is less to hold out against a protracted siege than to withstand open assault.

merely compelling the opponent to bring up siege *matériel*, which alone, if he is unprepared for it, creates great difficulties for him.

15. *Military Operations beyond the Seas*

When in the Crimea the armies landing on a foreign coast prevailed over the forces opposed to them, this was attributable to the fact that the communications of the attacker by sea were, in spite of all difficulties, superior to those of the defender in his own country. Let us imagine, for a moment, a network of Russian railways in 1854 as advanced as at the present day, and 120,000 French, English, Turks, and Sardinians would not have been able to hold their own there for long. The superiority of the Japanese on Chinese soil is explained by similar reasons, irrespective of their greater military efficiency.

The successes of the Federal armies by descents upon the coasts of the Southern States during the War of Secession are explained by the fact that by a seizure of the harbours the rebellion was at the same time deprived of its main sources of strength, and that in a thinly-populated country the rapid collection of fresh armies for the reconquest of lost ground was impossible.

In a mid-European war conditions would be quite different. In the first place, in a struggle between great Powers here in Europe the forces are so evenly balanced that no State would care to dispense with a single corps of its field army in order to employ it in uncertain undertakings upon distant coasts, This was speedily felt by the French in 1870; their landing projects soon fell to the ground owing to the force of circumstances.

"It is obviously important," says the German project of operation for that war, "to make full use at once of the superiority which the North German forces alone confer upon us. This advantage will be still more increased at the decisive point if the French should commit themselves to expeditions against the coast of the North Sea, or against South Germany. Sufficient men are left in the country to protect us against the first-named enterprise."

This conception will be true, more or less, of every mid-European war. The fruits of over-sea expeditions will but

rarely counterbalance the disadvantage accruing to the field army from the weakness caused in its ranks by the despatch of expeditions. Before a corps, landed on the enemy's coast, has scored any material success, and can spread itself freely, and before the fleet has taken a number of places on the coast, the freedom of movement of the landing corps will be very limited. Such disabilities can only be compensated by daring enterprise and a surprisingly rapid advance, for which, however, cavalry is lacking. Of this arm an army landing on a foreign coast requires a strong force, so as to be able to reconnoitre rapidly in all directions, to destroy railways at a distance, and to check the approach of the defenders, who are collecting on every side. But horses are, of course, more difficult to convey by sea and to disembark than men and *matériel*, and there will therefore always be a shortness of cavalry.

The present military systems of the great European nations are so far prepared for every contingency that even when all field and reserve troops are already engaged in battle on the frontier or in the enemy's country, a considerably superior force can still be quickly assembled to resist descents upon the coast. Landwehr and depôt troops in great numbers have not yet taken the field, and are available in garrisons. Great inland fortresses, which are not threatened by the enemy's field army, can furnish strong compact bodies of troops. New formations and the Landsturm levies are now called, and will not fail when the native soil is in evident danger. The telegraph and the railways, with undiminished working capacity, bring up forces from the most distant provinces. True, the attacker can also reinforce himself by despatching a second expedition; but before its arrival a considerable time must elapse, and the fate of the first will meanwhile have been decided. Landings and operations on coasts have accordingly not only to contend with great difficulties, but have generally but little prospect of appreciable success. They can, therefore, only be undertaken under especially favourable conditions, the first of those being a superabundance of forces. If Germany were attacked simultaneously by two great Powers on the East and on the West, their combined fleets and armies could certainly muster sufficient means for a descent upon our coasts in respectable strength. It would also be possible to bring the movement of the landing army in accord with those of the field army

of one of the two allies, whereby prospects would be considerably brightened. If Denmark, in 1870, had been arrayed on the side of France, France would have been able to land troops upon the easily accessible east coast of Denmark, and, in combination with the Danish forces, could have undertaken an expedition against the Lower Elbe. The lack of cavalry, which makes itself so sensibly felt, would have been made good by the Danish army; the allied army would have mounted up to considerable numbers; and the whole of Denmark would have served for a base of operations. But, under such circumstances, the character of an over-sea expedition is lost, since it would merely have been a question of conveying a part of the allied forces by sea to the point of concentration.

It will always be prudent, in order to gain some freedom of movement upon the enemy's soil, first of all to seize a considerable stretch of coast-line. An island close off would facilitate the safe disembarkation and formation of the troops, but then the element of surprise would be lost, as the defender would gain time to make his dispositions. It is clear that landing operations on a large scale, deep into a country and aimed at important objects, perhaps even at the capital, are only possible after a long war has completely exhausted the energies of the State attacked, and when its last resources in men, horses, and weapons have been spent resisting invasion by hostile armies.

An attempt can certainly be made immediately at the commencement of the war, when the concentration of forces has not yet been completed. "A French descent upon our coasts, if seriously intended, need only be apprehended in the very earliest stage of the war, as such distant operations would of necessity appear impracticable, directly we set foot upon French soil," we are told in the official account, by the General Staff, of the war of 1870. Such descents bear rather the character of alarms, intended to derange the mobilisation and to excite the people, than that of a serious attack.

Upon the masses a certain impression will always be made when the enemy, who is supposed far away beyond the frontier, suddenly appears upon the coast. But let us suppose an army of 40,000 to 50,000 men suddenly thrown upon the part of our Baltic coast nearest to Berlin, that is at

the mouth of the Oder,* and advancing upon the capital; the five or six days which would be required to reach the city would suffice for opposing it with superior forces.

Descents on the coast are, accordingly, in the case of a populous State with a good military organisation, bugbears rather than real dangers. They may, however, assume a critical aspect where the landing is followed immediately by the seizure of an important unprotected objective. We have already quoted the example of the situation of Constantinople in relation to the Black Sea and its bearing on the Ottoman Empire. Copenhagen would play the same *rôle* in the case of Denmark, Amsterdam in Holland, Antwerp in Belgium, although these cities are already protected by fortifications, or are about to be so. The protection of London by means of an entrenched camp has already been proposed,† though an attack on that metropolis would be far beyond the scope of a simple landing operation, and would probably be preceded by a tough struggle at sea.

* Not to mention the difficulty of landing at that particular point.

† *Army and Navy Gazette*, August 31, 1889.

CHAPTER V

SUBSISTENCE, SUPPLIES, AND REPLACEMENT OF CASUALTIES IN WAR

ONE who finds it inconvenient to give his attention to questions of commissariat in war may plead Napoleon's indignant exclamation, "Do not talk to me of provisions!" But the matter wears a different complexion when we observe the Emperor's conduct in his various campaigns. He evinced, at all times, extraordinary care in the measures taken to provide for the sustenance of his armies. Certainly, he did not adhere to any rigid system, but took the means of nourishing his hosts wherever he found them. He understood how to extract supplies, even in exhausted and poor districts, by the promise of high payment, by his tactful treatment of authorities and communities, as well as by threats and brute force. When, to use his own words, the occasion arose, he put the country on both sides of the road on which the troops were moving, under blood and fire, in order to squeeze provisions from it. As he understood how to stamp armies out of the ground, so also did corn grow upon his open palm. But he was above all a master in organising his lines of communication, where purchases, convoys, requisitions, magazines, and enforced feeding by the population, all helped to satisfy his soldiers' wants. In Russia he came to grief because circumstances eventually became superior to the man. His saying must not, accordingly, be taken to mean that a commander must not concern himself in matters of commissariat, but only that considerations of nutrition must not control, but be subordinate to, those of the employment of the troops. The great ends of the war must be prejudiced as little as possible by anxiety for bread, and for this object every available source must be tapped; that is what is really meant.

The custom of war which allows armies to take from the

country all they require for their sustenance is very ancient. Moses, in sending forth spies into the Promised Land, commended the system of requisitions with the words, "Be comforted and take the fruits of the land." In the Thirty Years' War, this practice was in vogue to an extent disastrous to Germany. In later times, it was suppressed by the peculiar influences of the development of the political and military systems. The Great French Revolution, with its reversal of views of right and of political ideas, reintroduced it. It placed, for the purposes of war, at the absolute disposal of those in power the entire resources of all countries over which they dominated.

Thus the principle, "of living on the country," became anew a recognised custom of war, and we adhere to it even now to such an extent, as to regard all the supplies brought up from the base of an army merely as reserve stock, for cases of urgent need, when the theatre of war can no longer yield what is requisite. But in this very particular we are just at present witnessing a change, which will be even more marked in future wars than it was in 1870–71.

By the expression "to live on the country," we have naturally an *enemy's country* in view: applied to our own, the most essential advantages of the system disappear.

In ancient times the advantages accruing from rendering the troops more mobile and independent were not recognised, and armies clung to their magazines, even when the resources of the theatre of war were being utilised. The greatest importance was attached to bleeding the enemy's country, whilst the invader's country enjoyed indirectly a corresponding growth of its resources. Frederick the Great, in 1756 and 1757, took good care to let his armies live on the enemy's country, without any idea of gaining freedom of action for distant conquest. He merely intended to provision his troops for a time, without paying so much for it as in his own country. He wished to keep his money in his pocket, to spare his slender exchequer, and thus to be enabled to carry on the war the longer. In reality, the supplies collected by foraging* were considerable, considering the smallness of the armies and compared with the trifling sums involved. At times, the army may have lived without expending a *thaler*, or bringing a sack of flour across the frontier. In the seven-

* The modern system of requisitions was not then employed.

onth century, it was the rule in war to subsist free of cost, nd neither Thurn, Mansfeld, Christian of Brunswick, or Vallenstein had regular funds at their disposal for the naintenance of their armies. They acted to its fullest extent n the principle that war must support war.

Now, when armies and the daily expenditure of money are eckoned by millions, all that is changed. The supplies astily collected on the march, or by enforced contributions, re insignificant, as far as a saving of money is concerned. 'hough the troops may occasionally eat and drink at a eighbour's expense, the supply department cannot on that ccount suspend its operations, nor the public coffers be losed. Considering the care which the feeding of such large nasses of men demands, it is impossible to wait to see if nything can here or there be found in the country, but the ntire supply for the whole army must be assured by the State day by day. Just as a great household is carried on n the same scale, whether or not one or other of the family e invited to dine at another house, so must the supplies flow ontinuously for the full number of men and animals, without egard as to whether one or other army corps chances to be n need of the fresh supplies or not. The result will generally nly be that the troops live better for a time, that is, consume louble. A good deal will be spoiled or lost.

Every one knows, too, how difficult it is to procure even 100,000 francs in an enemy's country by levying contribu-ions, and that is not one-hundredth part of the daily cost of a great army. Even forced contributions are no longer of ny appreciable account in respect of reducing our own expenditure.

The unrestricted pursuit of the objects of war is, no doubt, enormously facilitated if the army finds in affluent districts of the enemy's country provisions enough to maintain itself temporarily wherever it turns. But it must be doubted whether this fact has any appreciable effect upon the finances of the State.

If we live upon the enemy's country, it means that the enemy is not in our own, and that our country is not suffering from the presence of the contending armies. Its tax-paying capacity and its credit are not nearly so much diminished as would be the case if a part of its territory were overrun by troops. But the idea, which might have been justifiable in

the seventeenth and eighteenth centuries, that it were possible to force an enemy to yield by carrying the war into his country, has now a very limited application indeed. The possibility of holding out does not depend so much upon whether we are on this side of the frontier or on the other, as upon our international credit.

In another respect, also, the meaning of the standing phrase, "live upon the enemy's country," is changed. Even Napoleon, in 1812, did not lead as many combatants into Russia as we, in 1870, did into France. In the future, the figures of 1870 will be greatly exceeded. Such huge masses of men, passing over a country, consuming everything like swarms of locusts, can only for a very short time be maintained upon scattered household supplies. Let us take the case of a small country town, which is unexpectedly called upon to provide for 4000, 5000, or 6000 men. That may go on for one, two, or three days without difficulty, but not for weeks. The soldier's management in kitchen and cellar of his billet is not wont to be very economical. Much is merely "used up" and wasted unprofitably, and under such conditions supplies become exhausted twice as rapidly. We thus, not from pedantry and a desire to obstruct the operations of war unnecessarily, but compelled by the force of circumstances, revert to the use of magazines. It is, however, erroneous nowadays to speak of a system of magazines, for our modern methods of supply are characterised even by *want of system*.

The peculiarity of the old magazine system was that it bound armies to certain points, from which they were loth to separate themselves for more than a few marches. This is, conceivably, no longer the case, and any resemblance to Frederick's times is conveyed merely by the term "magazine." The difference, however, lies less in the new idea than in the modern system of finance. If Frederick the Great had been able to float loans on the Exchange, and if, at the beginning of the Seven Years' War, he had one hundred and eighty million, instead of only eighteen million, thalers at his disposal, with the prospect of being able at any time to effect a new loan, he would probably have acted as we do now, and his method of war would have been of a quite different type. A full exchequer may be worth an army corps, and a clever financier at the side of a commander-in-chief equivalent to a

first-rate general; for money is the magic wand in all that applies to the needs of an army. Modern warfare, with its principle of an uninterrupted and regardless employment of all combatant forces, would scarcely be conceivable without subscription loans, by which alone the requisite funds are procured.

The increase in the armies of the present renders all proof as to the vital importance of good commissariat arrangements unnecessary. The increase of population which is caused by the massing of the troops in the frontier provinces defies any parallel drawn from times of peace. In spite of the liberal disposal of pecuniary resources, the commissariat question is still more vital than idealists, whose fancy indulges in schemes of bold marches on paper, would have it, and who, of course, dislike any clog being put on their wheel. Clausewitz teaches: "The provisioning of troops, in whatever way effected, is always of such difficulty that it has a very decisive voice in the choice of tactical measures; it often counteracts the most effective combinations, and compels us to look about for food, when we should prefer to pursue a victory and brilliant successes."

The Franco-German War was waged in a very rich country. The military authorities displayed the greatest activity; they employed all possible means without scruple and pedantry; and yet periods, though certainly only short ones, supervened when the troops were in actual want. In comparison with former wars, we may rightly congratulate ourselves that, in 1870, want never attained to such a height as to impede the military movements in any degree worthy of notice. In this feeling of self-congratulation lies the tacit recognition of the great difficulties with which the commissariat of an army has to contend, even under the most favourable conditions.

When our troops were concentrating in the Palatinate, inconvenience was soon experienced from the fact that only troops and no supply columns were at first despatched to the frontier. This was deemed necessary in view of the sudden action of France and the possibility of a powerful offensive movement being initiated in that quarter. Not only were the columns left behind, but even the approved contractors, to whom the military authorities had entrusted the business of bringing large quantities of supplies into the districts where the troops were collecting, found themselves unable to

deliver their stores at the proper places, because the railways were blocked. As they were only paid on actual delivery, it was natural that they should mainly despatch articles on which they earned most profit; and, in consequence, there was a superabundance of some things, whilst of others there was a deficiency.

In spite of the prosperity of the Palatinate, and the self-sacrifice of the population, it was here seen that "living on the country," when modern armies concentrate, does not mean plenty. Local supplies were still less adequate than they might have been, owing to the fact that contractors and officials of the military administration were making extensive purchases in the frontier districts at the same time.

The operations in France opened so suddenly and succeeded each other so rapidly that soon it became apparent that the assumption of the supply columns being able to bring up all necessaries direct to the troops was not justified. Mobile and active small trains became a necessity as links between troops and columns. The hopes, too, that the field-bakery columns would be able to attend to the slaughtering of the herds, and supply the troops continually with fresh meat, without trouble to them, were doomed to disappointment. The capabilities of the organisation had been generally over-estimated in consequence of obsolete experiences. There were sad experiences, as we know, in the movement of great herds of cattle, on account of insufficient attention *en route*. The military administration did not lack officials, but working hands. And then the preserved food industry was not sufficiently developed in 1870 to satisfy the demands of modern warfare. The *Erbs-wurst** of historic fame was a very primitive makeshift of the sort. Finally, in the restoration of interrupted communications, particularly on the railways as well as in temporary construction, not nearly so much was done to give the armies good lines of communication as we expect will be the case in the future.

Meditation on these points will enable us to perceive the direction in which we must move in the future, and on what lines the supply service of armies will eventually be organised.

The provisions which are best and, at the same time, most agreeable to the soldier, are always those that are fresh. He is accustomed to them; they taste best to him; they are

* A sausage largely filled with vegetable material.

lso, when served in proper variety, the most health-giving. resh beef and mutton, with all sorts of pease,* rice, potatoes, auerkraut, rye-bread, and, for a change, bacon, if it can be erved out winter-smoked and in a state of good preserva- on, deserve preference. Slightly salted† and smoked meat also useful.

But fresh provisions have this disadvantage, that they take p a comparatively large space, that they easily go bad, and re difficult to keep and to cook. If a soldier was required o carry fresh provisions for three days only they would lmost fill his knapsack, even if the bread was replaced by he ordinary army biscuit. How unappetising bacon, meat, tc., would be after a long journey, packed amongst other hings, is self-evident. The care which would, at first, be xpended in carrying it would naturally disappear more and nore in the excitement and hurry of a campaign. If the sun corches, and dust penetrates to the meat, it becomes spoiled ntirely, and in the end very much will be thrown away. Besides, hours are needed to cook it, and frequently the oldier renounces the pleasure of eating, when the meat, which is perhaps too fresh, remains hard and tough in spite f all his exertions, the vegetables prove unpalatable, and wind and rain have spoiled his culinary efforts, or clouds of dust sweep over the camp and kitchens. How often does it not happen in war that, just when the water has begun to boil in the pots, an alarm is raised, and a start must be made. No attempt to cook fresh provisions should be made unless it s certain that the troops will not be disturbed. Artificially- prepared provisions are, accordingly, an excellent substitute. They take up but little room, and are not nearly so heavy as the fresh, so that the soldier can carry a far greater quantity of rations without increase of weight. A handful of com- pressed coffee squares, or a few bars of compressed soup and vegetables, thrown into the knapsack, cause no inconvenience, and in the hour of need they afford refreshment and nutriment for a considerable time. Nothing is required save boiling water, for all the various condiments have been already added to the small packages. A few minutes are sufficient to prepare

* Which should always be given split, so as to be quickly boiled.

† Of salt meat, which has been in the barrel for several months, the nourishing elements have all been drawn out into the unpalatable pickle, while the meat is left entirely without nutritive value.

them, and their preparation requires no knowledge or special skill. The food remains clean, and does not become bad. Packing is unnecessary, as the preserved provisions are all delivered in tin boxes, and in other safe packing. The tinned meat, the meat biscuit, the compressed vegetable rations, etc., may even far excel the fresh provisions in nutritive value. The extraordinary ease with which they can be carried and used makes all such prepared provisions quite indispensable in future wars. The soldier is enabled to live for a number of days on his knapsack store, in case he does not find sufficient for his wants in the country. This may be of quite vital importance in the future, when great masses are quickly concentrated, or, under specially trying circumstances, where the enemy commands the lines of communication by his forts, as, for instance, where we have, perhaps, broken through a chain of fortifications in order to engage the enemy, but where the trains cannot yet pass with safety. In such times masses of men, such as are now in question, can no longer be provided with fresh bread, biscuit, fresh meat, bacon, and rice, or even with pease and coffee. For the horses, too, artificially prepared food is employed with the best success, and this renders the cavalry capable of undertaking bold and sweeping operations. We must, in the future, avail ourselves as much as possible of these valuable means of becoming independent of commissariat trains for a considerable time, as therein lies a decided element of superiority. What a *rôle*, in spite of their then incomplete form, preserved provisions played even in 1870 is proved by the fact that forty million of these rations were served out to the army on its own demand.

Preserved foodstuffs are dear, and, when used for any great length of time, become nauseous. Besides, they cannot be readily procured everywhere. Private enterprise cannot, of course, keep up in time of peace the plant required to provide at the right time for the enormous requirements of an army in the field. It is a very useful measure of our army administration to keep a State manufactory, the origin of which was due to the initiative of the superior authorities of the army of occupation in France.* It would, of course, be a mistake

* These establishments might also be advantageously employed as schools of instruction for administrative officials. In the campaign of 1870 many of them lacked the necessary knowledge of preserving

to resort entirely to preserved provisions; they can never, not even for a moderate length of time, replace fresh food. They are, however, of inestimable value for the first period of the rapid concentration of the armies on the frontier, and, again, in the course of a campaign, in cases of emergency. Nothing must be left untried that can in any way promote the ends of the war. What would not Napoleon have given to possess such means of provisioning his troops in 1812, or in the critical days of 1814?

The *nature of the provisions* will, of course, differ according to the financial and commercial conditions obtaining in the various countries, as well as to their means of transport. Space is lacking to enter upon particulars affecting given localities, wherefore we shall endeavour to describe the method which appears to be best suited to a great European civilised State.

The army administrative services cannot, in our days, afford to dispense with the help of private persons at the immediate outset of a war. This is due to the simple circumstance that the former, entirely engrossed in time of peace by their duties, which lie in other spheres, are not acquainted with the state of the markets and have no means of controlling them. For that, it would be necessary that every commissariat official should be a wholesale dealer. Only the expert man of commerce knows where to lay his hand at any moment upon the amount of supplies that the army needs. The French army administration in 1870 was in default in that, though possessing a powerful organisation, it was purely dependent upon its own resources, and could not reckon upon the support of the civil authorities. It had become an entire stranger to such an arrangement. A French general in an important command, under pressure of extreme necessity, had resorted to the most natural and sensible measures, and opened markets with the assistance of the civil authorities, a procedure which was loudly denounced in the military press after the war. It was even quoted as an instance of the extent of the existing confusion. In these days people in France have become more clear-sighted, and in their carefully organised commissariat system they rely greatly upon the

processes, or even of slaughtering animals. Many commissariat officials were certainly compelled to administer field abattoirs who had never seen an ox killed in their lives.

co-operation of the civil authorities and on purchase by the troops in the open market.

But private assistance must be duly regulated. Hitherto it has, for the most part, been customary on the outbreak of war for the supply services of individual parts of an army* to conclude contracts with purveyors known to them. Only traders were considered who knew the business very exactly from long practice, as novices would soon have come to grief. But these gentry knew full well that they were masters of the market; they understood only too well that their goods were as indispensably required as gunpowder and lead, and, therefore, that they could, as a rule, charge what they liked. Scruples as to expenditure—the main factor in times of peace—vanish in war time. Provisions at once run up to double their normal price. Besides this, the purveyors needed money to an amount not generally at their disposal. They were bound to raise the finances, and, as money in war is the dearest of all commodities, a cautious man would naturally charge an additional 25 per cent on this account alone. If the other, not inconsiderable, expenses, the chance of losses, and a decent profit be also reckoned, it is easy to understand that the State had to pay 50 per cent more than the goods, properly speaking, were worth. The purveyors of the several divisions of an army then sent out their agents. Every one believed that he alone knew the best places for buying, or, at all events, was more exactly acquainted with them than others. But in the end they flocked together in great numbers at the same place. Competition resulted, as between the travellers of two houses, anxious to oust each other. The State thus created for itself the most dangerous competition. That all the agents and underlings of the contractors would live well personally is pardonable, considering the magnitude of the business. And so the most fashionable hotels in the large towns were filled with persons who would otherwise be unknown there, and the elastic item of personal expenses grows apace. When finally the articles contracted for had been procured for a round sum, the next thing was to convey them to the scene of operations; for the cautious authorities only paid on delivery. Immediately the railways were released from the great pressure of the transport of troops, the race began for the transport of supplies. What impedi-

* *i.e.* the Army corps.

ments stood in the way of making contracts and of controlling their due execution need not be dwelt upon.

The conditions which existed in 1870, at the outbreak of the Franco-German War, and which made themselves very sensibly felt, must not repeat themselves in the future to the same extent. Above all, steps must be taken to confine the activity of private contractors and surveyors to limits admitting of control. Their doings must be no further cause of trouble, and they must in the future be kept at some distance from the army.

As demands will be much greater in future, the difficulties will also increase in proportion. A remedy might be found in detailing experienced supply officials, already beyond the stress of field service, to make arrangements in time of peace for the purchase of supplies on a large scale in all the more important business centres. Great latitude should be accorded to them, and they should be released from all minor duties, so as to give them both time and opportunity to prepare the ground for their important operations.

If it is impossible to employ such officials, it is still possible to appoint wholesale merchants of repute as commission agents of the State for purchases in bulk. The widespread belief that this would open the door to peculation is not generally justified. That old-established business houses of standing, to which alone recourse would be had, should charge higher prices than those actually paid, is quite as inconceivable as that their directors were thieves. The malpractices of commission agents are most sternly condemned in the commercial world. It is, of course, not an easy task to control such agents and supervise their commecial transactions, since the higher officials of the supply branch are almost exclusively absorbed in office duties. But for this purpose the military administration could organise a technical board in the form of a commission of merchants, jealous of their reputation, who would bind themselves, in return for adequate compensation, to assist in all commissariat arrangements. Men who disdain to identify themselves with the business of an army-purveyor, always more or less questionable in the eyes of the public, would certainly be able and willing to act as expert advisers, the more so, as on the outbreak of war all pains taken on behalf of the army would be regarded as patriotic actions. These authorities would be

best qualified to designate the proper agents for the several towns, and to suggest measures of control and supervision.

Every use made of a foreign market, as a rule, injures the enemy in an indirect way. Could we, by paying for them, have secured the resources of England when France had no longer any communication open with that country through Belgium, Gambetta's resistance in 1870–71 would have been of shorter duration. But such operations, too, must be initiated in time, and placed under a unified direction. In the late war, the agents of our great contractors competed with each other in London, Antwerp, and Rotterdam, as well as in the great industrial centres of Austria and Hungary, to the detriment of the State treasury.

In this respect also a body of commercial advisers would be able to give the military administration most valuable hints; but it must be established and take up its functions in good time, as business relations, not entered into till the outbreak of hostilities, would only render belated services. It is, at all events, necessary for the wars of the future to elaborate the scheme of a supply system working on a large scale, analogous to the plan of operations, and dealing not only with the purchase, but also with the transport of enormous masses of supplies.

The peace magazines of large garrisons, now common to every part of the army, may be of great service. Assuming that supplies for three, four, five, and six months for the garrison on a peace establishment are kept stored in them, they would suffice for the same garrison at war strength for a considerable time, and might be sufficient even for a whole army corps, for a few days at least. The administration of these magazines* naturally has regular business relations in its district, which enable it to buy up quickly and freely great masses of provisions. Their relations, moreover, will be confined to a certain district or province, and will not clash in the sphere of another administration, whereby the former injurious competition among private purveyors will be avoided. These great peace magazines will serve as reserve depôts providing a continuous stream of supplies for the seat of war.

But their administrations can only be employed with advantage for the delivery of supplies ordinarily handled by

* Supply depôts.

them in time of peace, as their business connections only suffice for these purposes. They are not in a position to procure valuable consignments from distant parts or from foreign countries.* For this latter business, agents and commercial syndicates must be employed. In addition to the purchasing agents, it commends itself, especially for orders from foreign countries, to appoint transport-agencies as well. It may still be found possible, in certain cases, to obtain supplies on the old system through the medium of particularly capable general contractors, which is certainly a great convenience; but still their consignments will not reach the theatre of operations direct, being delivered into depôts or magazines.

The efficient working of the sources whence the army is to draw its supplies having been assured in one way or another, special measures will next have to be taken for the area of operations.

So far as considerations of the rapid concentration of the troops permit, supply trains should be run at once between the trains conveying troops. Again, experience has taught us that trains conveying troops can carry at the same time a not inconsiderable quantity of supplies, without any inconvenience being caused thereby. Hence it is possible to order the troops to be accompanied by supplies for several days, to be taken with them into the area of concentration. Provisions for from three to six days would seem to be a fair amount. Preserved provisions would obviously be best. It is absolutely necessary for the troops always to have these on hand, for in the confusion of mobilisation, especially in small garrisons, it will be impossible to effect purchases with the slender cash resources available. The more the troops are dependent upon their own arrangements for messing, the more likely it will be that they keep a proper stock of preserved provisions.† On leaving the railway, the supplies brought with them will be loaded upon hired waggons or upon carts requisitioned in the country, which follow in rear of the

* Nor are they in a position to negotiate purchases of live stock, preserved food, etc.

† Though good brands may keep for years, it is nevertheless advisable to renew them from time to time by consuming and replacing them, if they are to be agreeable to the taste. The fatty substances always suffer to a certain extent by age, and then are apt to become nauseous.

column. Every unit is now provided in addition with good light waggons, well-horsed and specially built for the carriage of provisions and forage, which travel faster and cause less delay in the columns than the sutlers' waggons used in 1870–71.

Thus ensured for a time against famine, the troops arrive in the area of concentration. It must be permitted—nay, made a positive duty—to make purchases here in the open market, wherever opportunity offers.* Abundance of local supplies will at once lead to the establishment of a depôt. As the trains and the transport-columns are not yet at hand, carts hired or requisitioned take their place at first to supply a regular service between the troops and the magazines in course of formation. When no longer needed, these vehicles are made over to the transport authorities on the lines of communication. One good quality of such rough and ready waggon columns is their want of a legal status; they are simply used to their utmost capacity, and when no longer required, they are left anywhere. Often another body of troops takes possession of the wreck and makes some use of it. In the absence of regular waggon park columns, the supply department of the Second German Army, in the last war, often availed itself of such improvised trains with considerable success. This department procured at once for each army corps a park of 400 requisitioned waggons and afterwards frequently repeated this measure.

The military administration, moreover, despatches its officials, furnished with considerable sums of money, and accompanied by experienced merchants or agents, to effect purchases in the country round about the district where the troops are concentrating, for the establishment of depôts, wherever the means of communication facilitate such an arrangement. If railways are not available for the purposes, transport by water must be utilised to the fullest extent. A small barge, such as is used on the Spree, can carry 1000 cwt. A great army, of modern dimensions, consisting of 800,000 men and 300,000 horses, requires in three weeks, irrespective of hay and straw, supplies weighing 2,000,000 cwt.; hence, 2000 such barges would be required for the purpose. Such a number was in 1870 certainly available for the purpose upon

* If it even seems possible for a time to arrange for provisioning in billets against cash payment, this plan, will, of course, be adopted forthwith.

the waterways in connection with the country in which the troops were concentrating, viz. the Rhine, the Main, the Ludwig canal, the Upper Danube, and the Moselle, but they were not utilised to the fullest extent possible. Tugs accelerate the transport considerably.

As the resources of field-bakeries are inadequate, private bakehouses of all kinds are set to work on a large scale, and are furnished with an increased number of hands.* Either flour is supplied and payment made for working expenses, or the baking is done independently, by contract with the military administration.

Cattle are bought up on the spot, as they suffer too much in transit. It happened in 1870 that the cattle fell off so much, in consequence of insufficient feeding, that they produced only 41 per cent of meat, as against 59 per cent of bone. If they have to be brought up from a distance, special arrangements are required. Stabling will rarely be found where wanted, especially not at the railway stations. Portable shed fittings, which can rapidly be put together, are useful, but the organisation of efficient butchery columns is necessary. Generally speaking, it is not advisable to keep large herds together for any length of time, owing to the danger of an outbreak and the spreading of epidemics. The better plan is to distribute them quickly in small numbers among the troops and columns. Some cattle depôts must be established at convenient centres, from which to furnish to the troops what the theatre of operations may not be able to supply.

The armies and army corps make similar arrangements for their particular areas to those made by the administration of the army for the whole. The officers of the General Staff who proceed by the first troop trains in order to supervise the detrainment of the troops, are accompanied by officials from the *intendantur*.

In the measure that the troops advance, fresh magazines must also be established. All available means must be employed simultaneously for a common object. All depends upon the efficient working of means of transport. The most important are the railroads within the theatre of operations which are immediately exploited, and are supplemented by

* For this purpose the administration of the Second German Army frequently employed women with great success, female hands being easier to procure in time of war.

the construction of numerous short branch lines.* The greatest progress has recently been made in the laying of small-gauge lines, the trucks for which are taken from neighbouring mines. The improvisation of tramway tracks for horse traction by means of good timber rails may be practicable in a level country deficient in railways and trunk-roads. On the other hand, steam-power upon good artificial roads facilitates the simultaneous hauling of great weights, and columns of freight trucks, drawn by traction engines, have also their uses. A wide field is still open for the inventive brain of our engineers. The authorities on the lines of communication are all bent upon procuring means of transport of every kind. The closer the front is approached, the greater will be the necessity of lightness and mobility, the last link in the immediate rear of the army being the well-horsed supply columns.

Taking a general view of the working of the supply service considered in its main features, we shall probably see the following :—

At the rear of the army, in the interior of the country, reserve depôts are scattered about in all the provinces, procuring the supplies for certain parts of the army. These forward their supplies by rail as required to the great general magazines, the collecting stations. As soon as one consignment has been despatched, a fresh one—for instance, supplies for two days—is at once packed and got ready for forwarding.

Collecting stations will generally be established at great railway junctions,† lying, however, within our own borders at not too great a distance behind the army, and thus in perfect security. These places must, besides, be of a nature not to create difficulties in the extraordinary amount of traffic which is developed at such points. Towns with narrow streets, and fortresses with narrow gateways, are not suitable. Much open space is imperative, and spacious buildings are useful. Places answering this description are made the principal depôts for the armies. Not merely the supplies brought up from the reserve depôts are stored in them, but also those brought up by agents, or supplied by State manufactories. Herds of cattle also are accommodated at the collecting

* Constructed by railway battalions.

† Situated, if possible, on water-ways as well.

stations, and bakeries and workshops established. Supplies sufficient for five or six days must always be kept in store. Trains loaded with supplies packed for immediate issue stand always in readiness for departure.

From these stations the requisite supplies will be forwarded to the front, so far as the railways can be utilised beyond the frontier. Where they terminate, or where safety ends, advanced depôts, to which, of course, spacious and well-situated railway stations must be assigned, are established. In these, again, supplies for two or three days will be stored, while fresh consignments are always on the way from the collecting depôts, so that an additional day's provisions may be assumed to be between these two points. From the magazines of the advanced depôts the provisions will be despatched to the front in every possible way. If the army is far distant, intermediate magazines will be organised on the lines of communication, to which the supply and waggon park columns resort for the necessaries for their respective corps. They will not, however, as a rule, follow them right into their quarters or cantonments, but take up their place between the troops and the magazines, whence so many empty convoys return and as many go forward daily as are required by the troops. But they cannot be disjointed in such a manner that some may go right up to the regiments, battalions, etc., to unload. These latter must, accordingly, send their provision waggons to meet the train columns at a certain rendezvous in order to receive their supplies. Frequently a hitch occurs at this point. Movement is impeded by the proximity of the army, while the strain on transport is great. Country waggons, impressed into the service, are of doubtful value, particularly as the roads used by the columns become worn out.

The French army has a small train for each regiment, consisting of strong, well-horsed "fourgons," with two high wheels, which readily clear ditches and other obstacles, and appear to be very serviceable. Such small trains, extremely mobile and belonging directly to the regiment, together with preserved food, are the best means of making armies temporarily independent of the general supply system with its unwieldy waggon columns.

Some difficulty is always experienced in the unloading of railway trains and other conveyances. Proper warehouses

for storing the supplies are often wanting in the immediate vicinity of the railway stations. Trifling as this circumstance appears to be, it is, nevertheless, very important. In 1870, great quantities of supplies were spoiled by rain all along the side of the railway from Strassburg to Frouard, and from Bingen to Metz. The necessity frequently arose for unloading the trains, merely in order to get the rails clear and to set free the rolling stock. Tents and materials for hutting are indispensable, yet it must be observed that the damp, which rises from the ground, is often quite as bad as that which falls from the sky. Waterproof sheets must therefore be provided as well. Hands are difficult to procure. The line of communication troops are employed on sentry and escort duties, and the field army rightly hesitates to detach troops for secondary purposes. Labour is, moreover, in the highest degree disagreeable to the soldier. He feels that he is not there for that purpose, that his duty is only to fight; besides, he lacks experience. The work done by men told off by the regiment amounts, as a rule, to very little. A company of hired porters, on the other hand, organised in 1870 for the clearance of the choked and overworked railway section Nancy-Ars sur Moselle, did excellent service. Such matters also must be arranged beforehand.

The sketch here given depicts only in mere outline the supply system of a modern army. The working method is not by any means bound to follow on the lines indicated.

Loaded railway trains and fleets of barges, drawn by tugs, kept ready in the proximity of the collecting stations, form movable magazines. If a halt occurs at the front, an accumulation of supplies is bound to result, if the service from the base remains in full operation, and intermediate depôts will gradually assume the proportions of general magazines. At the front, among the troops, small detail magazines are established, from which the soldiers draw their supplies direct.

In addition to the regular means of transport, auxiliary transport columns are employed, raised when required and abandoned when no longer wanted. Besides what he receives from the magazines, the soldier avails himself of the resources of the country, sitting at the table of the citizen in whose house he is billeted, and investigating his cellar. All obtainable supplies are seized or bought up. When nothing appears

to be left, and even force fails, money will still always procure something. When towards the end of November, 1870, the *intendantur* of the Second Army established markets in the Beauce district, north of Orleans, where troops had been continuously quartered since the beginning of October, and where nothing could be procured by requisitioning, the offer of high prices aroused the desire for barter and sale. It was then speedily discovered that there was not a lack of provisions, but only of receptacles in which to carry them away. Sewn up in window-blinds, in beds and furniture coverings of all sorts, and in baskets and in boxes, the peasants brought in the oats sorely needed by the army, and eventually the supply became so abundant as to lower the prices.

The whole working of the commissariat of an army is characterised by great freedom of action. System is superseded by careful thought, and by the regardless utilisation of all the means at hand. This regardlessness must not only extend to the money question, but also to the pressing into the service of the army of all officials and private persons who can be of any assistance in furthering the great task. Even the best intendance department, dependent entirely upon the activity of its own subordinates, must inevitably come to grief.

If a stickler for regulations would calculate the needs of the army in the field by pounds, and provide accordingly, he would certainly rarely run the risk of part of the supplies being spoiled, but the army would suffer by this arrangement. Even the most painstaking measures do not, in the case of troops employed in the field, guarantee with complete certainty the desired result. Experience teaches us that failure occurs in one way or another. Twice and three times the normal requirements must be supplied, if an army is to be kept from want; double and treble in respect of quality, double and treble in respect of quantity. He who relies entirely upon requisitioning is lost, even in the richest of countries. He who counts upon his supplies from the rear alone will have but little success, even with the very best railway communications, a well-organised transport service, and a rich country in his rear. Everything must be pressed into the service; impressment in the enemy's country, and open purchase by authorities; buying by the troops in their own country and in the theatre of war; supply by contracts

negotiated through commission agents and wholesale merchants; utilisation of railways, canals, and trunk roads of the line of communication, transport, supply and waggon park columns, the provision carts of the troops, and rapidly laid narrow-gauge lines and tramways. Stationary and movable field bakeries, the various sections of which are distributed among the troops in order to provide for them, existing bakeries, with an augmented *personnel*, new field bakeries, private and joint-stock bakeries, all work together to the common end.

If the fixed determination exists to utilise all these means in war fully and unreservedly; if the preparations—which it is impossible, considering the shortness of the time, to carry out promptly after mobilisation—be made with foresight and prudence in time of peace, *then, but then only*, is it possible to be equal to the task of supplying the needs of the martial hosts of the present day, when all the generals have but the one desire to push their operations without let or hindrance.

"The power to endure privations is one of the noblest virtues in a soldier, and where it does not exist, there is no army of real warlike spirit; but such privation must be merely temporary, caused by the force of circumstances, and not the result of a miserable system, or of a parsimonious abstract calculation of mere *absolute* necessity."*

An intimate bond of union between commanders and the administrative services, and the co-operation of the general staff and the intendance department, is always indispensable, in order to render the measures adopted really beneficial to the troops. The French were lacking in this respect in 1870. The general staff made its dispositions and communicated them to the supply department, leaving it to provide for the provisioning of the troops. In spite of the high status of the officials, an intimate interchange of opinions between them and the generals was wanting. It is well if the commander-in-chief makes his plans first, without inquiring into the question of commissariat, but afterwards he should hold open converse with the head of the supply service, whose principle it should be to make the impossible possible. But that he will very frequently be only able to do if he is properly backed

* Clausewitz, "Vom Kriege," ii. 1883, 4th edition, Berlin, 1880, p. 83.

up by the staff, by the troops, and by the line of communication authorities.

The director of supplies with an army must be in the confidence of the general. Here again everything depends on the choice of a proper person. Experience and devotion are not sufficient qualities in the head of the supply department of an army. The post requires a man of genial nature, capable of smoothing over difficulties, but also of acquiring influence with persons of high rank. A winning, but yet firm, nature would seem to answer best.

If the arrangements made behind the army suffice for the commissariat, they will also serve for supplying the troops with ammunition, clothing, and equipment; for the weight and bulk involved are as nothing when compared with the food supplies for men and horses.

It will generally be possible to make good the expenditure of ammunition by bringing up fresh supplies by rail from the principal depôts, without other intermediaries than the emptied ammunition columns of the army corps, as the experience of 1870–71 shows. But prudence demands that field ammunition columns should also be formed, in order that no hitch may occur if the railway should happen to fail. It will generally be possible to bring them to the scene of action unhorsed, as horses can be requisitioned en route or be taken from disbanded waggon park columns, and, in case of necessity, from the horse depôts. With regard to clothing, difficulties are apt to arise in the course of protracted operations owing to want of system in the small workshops organised by units. So far we have consoled ourselves with the hope that a good uniform brought from home must last for the short space of a campaign. This, in the Franco-German War, was shown to be partially misleading. The bad state of the soldiers' clothes and boots threatened, especially in the campaign on the Loire, to become disastrous. In December, 1870, some German soldiers might have been seen plodding along the miry roads, in the depth of winter, barefoot, whilst many had only wooden shoes and linen trousers. In the command of the Grand Duke of Mecklenburg, after the fatiguing marches which had been made since the middle of November, there were many weak companies in which forty men and more were absolutely bootless. "Lastly,

I observe,"—at that time the chief of the general staff of the Second Army reported to the great head-quarters—" that the shoes of the troops are in barely repairable condition; during a few days of rest we shall endeavour to mend matters a little. Many articles of clothing intended for the command are warehoused in various places, clothing of the 10th Corps, for instance, in Lagny,* without its having as yet been possible for us to have them brought here." When the above-mentioned corps marched, in January, through Le Mans, after its victorious battle, it was in a plight vividly reminding of the description of the troops of York before Paris. There was scarcely a soldier who was clothed in the regulation manner. Lots of civilian garments were seen in the ranks. Everything within reach had been made use of, even the ominous French red breeches, which might easily have invited a Prussian rifle bullet. Every soldier, however, had taken care to retain some article showing that he belonged to a regiment, if it was nothing more than the helmet, on which generally some of the fittings were wanting. This tattered condition was in notable contrast to the fine military bearing and fresh looks of the men, who were well fed. If, however, the operations had lasted much longer, the deficiency of clothing would have become a serious matter. It cannot, moreover, be denied that such a state of things must, in process of time, react unfavourably upon good order and discipline.

We have already pointed out, in another place, the advantage of independent administration within the smaller units in time of peace. During a war, great central workshops are essential. Napoleon established them even within the area of hostilities. We now have Army Corps clothing depôts and factories in times of peace, and arrangements are therefore possible for the supply of reserve clothing on a very large scale. The industries of the enemy's country can frequently be turned to good account; as, for instance, was done in the spring of 1871 at Tours by the 10th Army Corps.

Hand-in-hand with these arrangements march those for the treatment or transport of the sick and wounded. The field hospitals only provide them with temporary shelter, then hand them over to the care of the army hospital corps, which organises permanent hospitals close in the rear of the

* Before Paris.

army, and immediately follow up the advance. It is an established principle that every patient able to bear the journey shall be taken further back toward the rear, where greater quiet and security prevails. Along the lines of communication, station hospitals are built for the reception and treatment of passing sick and wounded. Hospital and medical trains move about the railways to take back to the great military hospitals at home as many as possible of those in need of medical treatment. Good arrangements of this kind, and especially the prospect of speedy succour, confirm the soldier's courage and impart confidence in the hour of peril. Suitable places for convalescents who are to rejoin their units at the earliest opportunity, must also be provided. Good supervision of the sick and those temporarily absent from the ranks in rear of the army will certainly prevent large numbers being withdrawn from the front without sufficient reason.

In 1870 large horse depôts were established on the lines of communication in which many sick animals, which would otherwise have been lost, were again made serviceable.

It will readily be understood how difficult it is to exercise control in the confusion prevailing in rear of an army, and what careful organisation is necessary. The administration imposed on parts of the enemy's country occupied, the organisation and care of magazines, hospitals, and depôts, and the establishment of safe military routes on all the lines of communication, by garrisoning a number of points along them, placing posts and detachments in other adjoining localities, as considerations of security may dictate, go hand-in-hand with the organisation and control of the whole transport, escort, and railway service. For these purposes the supreme command of the army needs a special administration, the inspecting staff on the lines of communication, under the control of which the railway administration is also placed. Inspecting staffs are to be found in each of the several armies, with station commandants at intervals along the lines of the different corps. Commissioners regulate the traffic on the railways. The starting-points and termini of lines exclusively given up to the service of the army demand special attention, and should be provided with strong garrisons and special facilities. The needs of the armies, and the natural conditions obtaining within the area of hostilities, must exclusively decide these matters.

If large tracts of the enemy's country have been occupied, governors—as was done in France by the Germans in 1870—are appointed, who unite in their persons both civil and military authority.

Of what importance fresh drafts of men are for an army is shown by the data already quoted as to the total losses in a great army by sickness alone. Therefore the organisation of the system of drafts must not be left to be improvised in war time, but must be worked out in detail, at all events on paper, in cases where depôt troops are not in existence. The bad method of reinforcing armies by new formations, instead of keeping existing units up to their normal strength by drafts, has long since been discarded in all great armies. Only the armies of the Northern States of America during the War of Secession, and the Turkish army in the war of 1877–78, allowed this system. These instances very clearly demonstrated the uselessness and worthlessness of unduly weakened cadres, which still retain their high-sounding titles. The most practical course is to make them up, and only to embody the surplus into new formations.

The losses caused in the ranks of an army in the field are so excessive that the preparation of drafts must start at the very beginning of the operations and be kept up throughout the whole campaign. At all events, a certain definite percentage of loss, which must not be placed too high, must not be allowed to be exceeded without immediate reinforcement. It must furthermore be unrelentingly insisted upon that the fresh drafts reach their destination without delay. Upon the lines of communication, in the midst of a hostile and often disturbed country, the new arrivals are welcome guests, who are apt to be detained against their will, as embarrassed commanders on the lines are always disposed to regard them as good booty. An army in the field is like a never satisfied giant, always clamouring for food, and who, like Antæus, only keeps his strength so long as he is able to draw it afresh from the soil of mother earth—that is, from the soil of the Fatherland. This simile has a twofold force: the moral vigour of an army springs from the love of country; its material strength, from the self-sacrifice of the Fatherland and from unbroken connection with it.

The picture here drawn shows us how far the enhanced resources of modern times correspond to the increased

demands. Armies are no longer chained to a single line, are no longer dependent upon the possession or loss of an only source of strength. They are based upon the whole country lying at their back, and, as long as the telegraph and railways connect them with it, upon the whole of their own country as well.

CHAPTER VI

ATTAINMENT OF THE OBJECT OF WAR

THE advent of a future war is regarded with anxious expectation. Every one seems to feel that it will be waged with a destructive force such as has hitherto never been displayed. War is now an exodus of nations, and no longer a mere conflict between armies. All moral energy will be gathered for a life and death struggle, the whole sum of the intelligence residing in either people will be employed for their mutual destruction. Great as are the armies, so must also be the destruction that follows in their wake. No doubt whatever, the wars of the future will be waged with a sternness that would appear to ancient chivalry exceedingly unpleasant. The growth of natural motives of jealousy and national enmity entails a corresponding display of force. Much as the masses, who have learnt to treasure the value of existence, may loathe war, they yet feel that under certain circumstances it cannot be avoided. The inward consciousness makes itself felt that a nation, like an individual, has to fulfil a certain mission in the time given it. The discharge of the duties of civilisation brings nations into conflict. What was it that, in 1870, in consequence of the French provocations, produced in the most peace-loving country in the world a mighty wave of martial enthusiasm? It was nothing but the feeling that the hour had at length come for the realisation of the dream of centuries of German unity, and that the Fatherland should, once and for all, close the period of history during which it had been the stamping ground of foreign armies and of foreign influences. Who would have considered it possible, after July 15, 1870, that Germany could draw back from the contest forced upon it? Even the humblest members of the community had a presentiment of the mission of their nation to command the respect of the world by its might, in order to stand forth in future in the very heart of Europe as a stout rampart of peace.

Where such forces set the great machinery of war into motion, it would seem that wars can only end with the entire annihilation of one party, or the complete exhaustion of both.

As a matter of fact, the growing national sentiment and the political realisation of the principles of nationality have increased to a marvellous extent the powers of resistance of States. No Frenchman feared when we were on the Loire that we would retain the land up to that point by the law of conquest; no German ever thought of it, and complete subjugation was still less possible. The national unity of States protects them from forcible dismemberment; for the victor also understands that the partition of a conquered realm must needs be a source of continuous wars. Thus the fear of the loss of provinces is soothed to a certain extent, though it will be played on as a means of exerting pressure upon the firmness of an enemy where the elements of a State are loosely joined and are not knit together by community of race.

Frontier districts, the population of which is a mixed one, are always in danger. Their nationality is doubtful, and they can be claimed by both parties with equal right. Apprehensions go no further, and, on the whole, it has become much more difficult to force a great State to yield. A recognition of this principle was the motive power of the continued resistance of France after the loss of the Imperial armies. Gambetta, after the failure of his plans, in reply to the question of his censors as to whether he believed in the possibility of a final triumph for the defence, answered, without hesitation :—

"Certainly I believe in it, even to this day. I am convinced that if the Government in Paris, which was a captive Government, had only capitulated for Paris, which was its undisputed, but also its only, right, and if it had not tied the hands of the country by acceding to the surrender of the whole of France, the country would, with the resources at its disposal, which might have been increased, and which as a matter of fact did increase day by day, have finally ridded itself of the invaders. There is no nation in Europe that has not at one time had the enemy on its soil, and has not endured his presence there for long, but has at last driven him out."

If obstinacy and persistency were displayed equally by both

sides, the end of the struggle would only be conceivable after general devastation and pauperisation had completely exhausted the physical, and long suffering the moral, forces. It is, indeed, conceivable that, in order to impose one's own will by force of arms on an obstinate people, led by a great man, it may be necessary literally to flood a country with troops and to exert extreme pressure upon the population for years on end.

But it will rarely come to this extreme measure, and in the case of prosperous civilised nations, perhaps never. A time will arrive, even before complete exhaustion is felt, when the general wish for peace will grow stronger in the vanquished State than the desire for a continuation of the struggle. This point of time will be determined by many circumstances independent of the natural qualities of the nation concerned. Pressure becomes possible soonest, and is more likely to be effective, where a numerous and prosperous middle class exists, and where industry is well advanced and commerce is flourishing, because the injury incidental to the presence of victorious hostile masses will comparatively be felt most keenly. Then it must also be considered that these classes of the population command the means and ways of giving effective expression to their wishes. They control the Press, and by it sway public opinion, and will soon be able to put down the partisans of war, or, at all events, deprive them of their influence. An effeminate middle class makes any State weak; for it is ever inclined, after a few disasters, to give up its cause for lost, and always yearns most intensely for the return of the calm of ordinary existence, which does not interfere with the accumulation of riches and the enjoyment of earthly goods.

Things, however, wear a different aspect where there exists in the main only a ruling aristocracy and a peasant class, the middle class being either wanting or without power and influence. The aristocracy, whether it consist of a nobility or of a coterie of moneyed persons, finds means of escaping the immediate effects of the pressure exercised by an enemy, and the injury, affecting but a fraction of their collective resources, is not sensibly felt. The peasantry, again, which suffers most from the presence of hostile forces, has not the means of enforcing its wishes for the termination of the war. Hence it follows that, unless the powerful influence of some lofty character counteracts the natural tendency, pressure can more

readily be exerted upon countries like France, Germany, Italy and Austria, than upon, say, Russia. It is incontestable that the simple duration of a state of war affects one State more than another, and that will, of course, have great influence upon its firmness.

The form of government is also of importance. The head of an absolute monarchy will be able to arouse the highest degree of warlike energy. But, in his case, the feeling of personal responsibility will assert itself the more keenly the less he is liable to be influenced by others. Everything then depends upon the strength of his character to enable him to bear cheerfully the burthen of high responsibility. A parliament may be the centre of either agitation for peace or of fanning the fury of war, since its attitude depends upon what group is in power. A handful of determined fanatics divested of personal responsibility, on the plea that they are merely carrying out the will of the people, may protract a hopeless war, which an absolute sovereign would long since have ended. The latter will act in accordance with the wishes of his subjects rather than would a small coterie of political partisans. The position of a dictator called to the head of affairs in the hour of danger is most favourable to the evolution of warlike energy. His powers are those of an absolute sovereign, and the responsibility falls upon those who have called him, or who have acquiesced in his usurpation of the supreme power.

There are many other circumstances which affect the endurance of the fighting temper : the situation of the moment, the spirit of the people, historical traditions and experiences, confidence in leaders, faith or mistrust in existing institutions, the shipwreck of hopes which were regarded as certain. The manner in which the victor makes his power felt either paralyses or encourages resistance. The more unexpected a blow of fate falls, the more powerful are its effects wont to be. The news of the rout of the army at Jena and Auerstädt stunned Prussia in 1806 so completely, because before the war began the bare possibility of such a catastrophe had never been contemplated.

It will therefore not be necessary, as a rule, to proceed to the total conquest of the enemy's territory. The first thing to be done towards the attainment of the object of the war is to deprive the enemy of any well-founded hope of victory

by the destruction of his armies in the field. Thereby an important advantage has already been gained, which itself may be sufficient to wrest the desired peace from a weakly nation. The next step is to rob one's adversary of any faith in the possible return of the fickle fortune of war. This is done most effectually by the capture of the capital, the occupation of places or districts which are most likely to supply the means of organising fresh forces, and the capture of great strongholds designed to stop or impede the advance of invading armies. Politics may, at this stage, become a powerful auxiliary by depriving the vanquished of all prospect of outside assistance. There remains the last means, namely, heavy pressure upon the most prosperous and sensitive districts, or the occupation of the whole country and the cutting off of its communications with the outside world. This is the *ultima ratio* of war.

It is but right to try to form an idea of the vast energy which will be brought to bear in war, in order to enable us to measure our own prospects, and to take steps accordingly. Yet the result of this investigation must never permit us to proceed against a powerful State with only a *part* of our forces. It is never possible to foresee by what chance incidents, by what personal influences or political revulsions the stubbornness of an enemy may not be increased beyond expectation. It was the chief error of the Allies in the first War of Coalition,* that they allowed themselves to be deceived in this particular. Even when we confidently believe it possible to attain our object without extreme efforts, still our ends will always be gained most surely, most quickly, and most completely by the employment of all our forces. The presence of troops on the battlefield, which may not, after all, be needed to complete the victory, will always serve to heighten the moral impression of superiority. A fault in the opposite direction, a too scanty calculation of forces, may be the very means of strengthening the enemy's originally doubtful resolution, and thus protract the war.

Thus in the future, where the enemy fairly deserves to be regarded on equal terms, we shall do well under all circumstances to make our preparations with the view to the possibility of having to proceed to extremities.

* Against the first French Republic.

CHAPTER VII

CONCLUSION

SO long as earthly nations strive after earthly goods, so long as they aim at securing for succeeding generations both room for expansion and peace and respect among their neighbours, so long as, led on by great spirits, they strive to go beyond the narrow bounds of everyday needs towards the realisation of political and civilising ideals, so long will there be war. What use is it to dispute whether war has an ennobling or degrading effect upon mankind ? The frequently quoted simile, that war is like a thunderstorm, which clears the air under great convulsions, must certainly not be applied without reserve. The Thirty Years' War changed Germany into a wilderness, and brought in its train a demoralisation without parallel ; and our own experiences in the Fatherland scarcely tend to foster the belief in the purifying effects of the last war. On the other hand, we rightly call the time when Prussia, after having fallen so low, rose and took up arms for its liberation, the time of her greatest glory. The preceding disaster had, in truth, dissipated, like a thunderstorm, the stifling atmosphere oppressing the life of the nation. A fresh invigorating breeze blew over the land.

The moral effects of wars will differ according to the form which they take, according to their final issue, and according to the times in which they fall. We must accept what the gods send. What is, however, absolutely certain, is that *wars are the fate of mankind, the inevitable destiny of nations ; and that eternal peace is not the lot of mortals in this world.*

To-day, then, it is not sufficient, as Machiavelli proposes, that rulers alone should know war, the nations themselves no less need this knowledge. They should know how to forge their weapons, to cultivate strength to wield them, and to steel their hearts so as to be prepared to endure the trials imposed by a struggle for the Fatherland.

It is not difficult to learn to *understand* the nature of war. "The conduct of war in itself is very difficult, of that there is no doubt; but the difficulty does not lie alone in the fact that special talent or great genius is demanded in order to grasp the true principles of war; any man of average intelligence, not utterly ignorant of the subject, is quite capable of grasping these. Even the application of these principles on map and paper gives no difficulty, and to have sketched out a good plan of operation is no great masterpiece; the whole difficulty consists *in remaining faithful in execution to the principles one has proposed to himself.*" So Clausewitz teaches us.

The sober application of simple factors, of which these pages have endeavoured to give us a sketch, a knowledge of the moral levers and of human nature, and the capacity of formulating a rational purpose, constitute all the knowledge required. Want of experience may, to a limited extent, be made good by an attentive study of former campaigns.

If, nevertheless, the gulf between "knowing" and "doing" is still a great one, this is purely due to the fact that the machine—the army—needs a vigorous hand to make it respond promptly to the pressure applied, and that, moreover, the execution of all plans takes place under the continuous counteracting influence of the enemy and amidst the impression of constant danger. Clausewitz compares the whole art of war "to the working of a compound machine with such enormous friction, that what can be projected on paper with ease, can only be carried into execution by a great effort."

The movement of masses is like the slow tread of an ox drawing the plough. It appears to be so easy to keep him going straight, and it is so for the practised hand. But let a novice take the handles, and what looked but a dragging pace seems to gather the speed of a storm. In spite of the highest exact knowledge, and the clearness of the object in view, the intended straight line makes the most startling bends and curves.

Personal friction, unfortunate occurrences, misunderstandings and errors, added to the excitement of the battle, the feeling of always standing face to face with events which may bring the height of good fortune or spell unutterable disaster—these are the factors in war which apply the crucial test of

character, and which can only be appreciated by one who has learnt to know them.

Many a gifted man who, with the boldest hopes, and equipped with the necessary knowledge, has essayed the *rôle* of a general, has retired from the lists after stenuous efforts, broken by such obstacles, and with despair in his soul.

When one has mastered the elements of the art of war, and has digested the principles of the most famous commanders with the aid of a tried expositor, the desire arises involuntarily in one's heart to try one's own ability and to appropriate to oneself the place of a Bonaparte at Marengo, or of a Frederick at Rossbach, Leuthen, and Liegnitz. But if one's eyes be cast back upon the instances of unfortunate commanders who, with equal right, coveted the same, attained their hearts' desire, and came to grief, only to be branded by their contemporaries as criminals and by posterity as weaklings, a man who is really in earnest recoils for a moment.

The question then arises: Is a knowledge of war valuable to the ordinary mortal, when it may only tempt him to dare difficulties and dangers, perhaps to his own undoing? Certainly!

What true soldierly nature would hesitate long to brush aside all scruples, and seize the opportunity, when offered, of wielding the bâton of a field-marshal? The prize is a great one; it is that which beckons the poet and the artist onward on a thorny path—Immortality. This word has an irresistible charm. The fortunate warrior rescues his name from oblivion. The names of Frederick and Napoleon will ring as long as the world lasts.

"But is it worth while to impose such heavy trials upon the masses, in order that a single man may be immortalised? The thousands that have fallen for the glory of the great commander are not mentioned. They go without reward." This may be the opinion of short-sighted wisdom, but we regard things in a different light. Even the greatest captain needs many capable, faithful, and bold assistants, and *these share in his glory.*

If the graves could open, and a Macedonian who marched with Alexander through the Granicus were to-day to come before us, even if it were only a simple warrior, we should imagine Alexander himself standing before us. Would not

a Carthaginian soldier, who crossed the Alps in Hannibal's army, appear as an embodiment of the great enemy of the Romans himself? Posterity will yield in its mind to the simplest warrior an immediate share in the greatness of the commander. All distinctions of rank disappear, and the reverence inspired by great deeds extends to all who shared in them, though they be of the humblest rank. Would we not gaze with respect and admiration upon a Grenadier of Leuthen, were he to rise out of the earth, and forget that he was only a soldier like many others of his time, and of whom there are many in our days? A happy destiny allowed him to play a part in a great historical deed, and this ennobles him in our eyes; we do not inquire into his personal merits. In this manner, future generations will one day envy the men who went to war with King William against Austria and against France, and laid the foundations of German unity. The fact that even the unknown and unnamed soldier, who would otherwise only live in order to live, to labour in order to earn meat and drink, shares in war the fate of great heroes, of rare geniuses, and is a helper in their great work, is sufficient reward. Even the crudest of men will not lack something of the feeling that here he raises himself above the toils of every-day existence. *Whoever has a heart, feels it beat higher and becomes enthusiastic for the profession of a soldier.* To defend the Fatherland, means also to gain the gratitude of the Fatherland, to unite one's name and one's being with the name and fame of one's King, one's leader, and one's people.

Empires built up and made great by the sword last, it is true, but their time, like everything else that ever has been or ever will be in this world. "The destiny of nations is like that of men; nations rise, they grow, they bloom, they decay, and cease to be." But it is worth more to make good use of one's allotted time than to outlive it like withered flowers in the spring. As yet no historian has ever placed the Chinese higher than the Greeks and the Romans, simply because they have outlived the latter. The consciousness of working for transitory greatness cannot affect the pleasure of the work. If only the name lives on, and if what a nation has done for the development of the human race was great, it may well one day dissolve into other forms; it has lived enough. To have shared in its achievements is sufficient to ensure a lasting record in history.

We Germans to-day are in a happy position. The star of the young Empire has only just risen on the horizon ; its full course lies still before it. The upward course to the zenith is more pleasant than that down the incline. And if ever a rising State held a guarantee of long existence, it is a strong, united, and military Germany in the midst of the Great Powers of Europe. Such a position is rightly called perilous, but it is the consciousness of danger which keeps energy alive. Certainly, if our Fatherland was to rest upon laurels won, and surrender itself to the pleasant dream that its existence, its prestige, and its security had been gained once for all, and that its neighbours were not, after all, ill-disposed, it would perforce soon become their prize. Accessible to all, in the way of all who hanker after expansion, its frontier districts, inhabited by people who, either from tradition, or from restlessness and love of change, conceive their centre of gravity to lie beyond, nowhere barred by natural obstructions, it would have to bear the cost of every revulsion in our part of the world. But so far as human foresight can conceive and provide, it will not come to this. A strong arm and a sharp sword will protect the heart of Europe.

But we must ever bear in mind that we have yet to climb the height. Ever upward is our watchward. Unceasing effort to perfect our national military system will, for a long time to come, be our highest political wisdom. Hand in hand with it must go the *increase* of our moral forces, which decide everything in war ; *increase*, not mere conservation ; for "never are moral forces at rest ; they decline as soon as they cease to mount upwards."*

First of all, then, it is necessary to make it clear to ourselves and to the children growing up about us, and whom we have to train, that a time of rest has not yet come, that the prediction of a final struggle for the existence and greatness of Germany is not a mere fancy of ambitious fools, but that it will come one day, inevitably, with full fury, and with the seriousness which every struggle deciding the fate of a nation entails ere a new political system receives unreserved recognition. Bearing this constantly in mind, we must work incessantly, by example, by word, and by our writings towards this end, that loyalty towards the Emperor, passionate love for the Fatherland, determination not to shrink from

* Scharnhorst in 1806.

hard trials, self-denial, and cheerful sacrifice may wax ever stronger in our hearts and in those of our children. Then will the German army, which must be, and shall ever remain, the German nation in arms, enter upon the coming conflict with full assurance of ultimate victory.

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